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Corporate Governance and Audit Quality: the Case of Kuwait

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CORPORATE GOVERNANCE AND AUDIT QUALITY: THE CASE OF KUWAIT

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Abstract

This study investigates three unique governance mechanisms of the recently developed Kuwaiti market: audit pair choice (joint audit), dominant blockholders and the adoption of Islamic business principles. The requirement to appoint at least two external auditors creates a more complex agency problem than does the traditional dichotomy of Big N/non–Big N auditor. Using a sample of all non-bank listed firms in the Kuwait Stock Exchange (KSE), this study examines the effect of dominant blockholders in the ownership structure and the adoption of Islamic business principles on audit pair choice. Following this, this study explores whether the resultant audit pair choice is associated with the quality of the reported financial information.

The results show that greater institutional and government ownership are positively associated with a higher quality joint audit. However, the results for institutional ownership are driven by active institutions (foreign and mutual funds ownership). The results show a negative association between the level of family ownership and quality of chosen audit pairs. The results also show evidence of a negative effect of royal family ownership. Moreover, the results show that as firms increase their adherence to Islamic business practices, the quality of the joint audit employed increases. This reflects the influence of people's beliefs and values on business decisions. Finally, the results show that the chosen joint audit quality positively affects the quality of the reported financial information.

These results contribute to the body of corporate governance research in developing countries by establishing the importance of the effect of society, culture and country on designing an effective corporate governance environment. In addition, the evidence suggests that joint audits can play an important role in opening the audit market and increasing the options of audit quality from which firms can choose. Overall, this study can help regulators understand the importance of enforcing minimum governance requirements.

Statement of Sources

This thesis is submitted to Bond University in fulfilment of the requirements of the degree of Doctor of Philosophy. This thesis represents my own original work towards this research degree and contains no material which has been previously submitted for a degree or diploma at this University or any other institution, except where due acknowledgement is made.

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Saad Alshammari Date

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Corporate governance, institutional investors, Islamic business principles, joint audit, Kuwait, royal family

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Contents

List of Figures

List of Tables

List of Abbreviations

2SLS	two-stage least-squares
AAOIFI	Accounting and Auditing Organisation for Islamic Financial Institutions
ANOVA	analysis of variance
AWQAF	Kuwait Awqaf Public Foundation
CEO	chief executive officer
CMA	Capital Market Authority
DT	Deloitte & Touche
EY	Ernst & Young
FRQ	financial reporting quality
FTSE	Financial Times Stock Exchange
GAAP	generally accepted accounting principles
GCC	Gulf Cooperation Council
IAS	International Accounting Standards
IASB	International Accounting Standards Board
IFRS	International Financial Reporting Standards
IMF	International Monetary Fund
KAAA	Kuwait Accountants and Auditors Association
KFH	Kuwait Finance House
KIA	Kuwait Investment Authority
KPC	Kuwait Petroleum Corporation
KSE	Kuwait Stock Exchange
MCI	Ministry of Commerce and Industry
MENA	Middle East and North Africa
OLS	ordinary least squares
PAMA	Public Authority for Minors Affairs
PIFSS	Public Institution for Social Security
ROA	return on assets
SEC	Securities Exchange Commission
SSB	sharia supervisory board
VIF	variance inflation factor

Chapter 1: Introduction

1.1 OVERVIEW

Low-quality financial reporting has been a contributing factor in many high-profile corporate scandals during the last decade (Coffee, 2005; Lobo & Zhou, 2006), leading stakeholders in many countries to demand higher quality corporate governance (Chhaochharia & Grinstein, 2007; Kiel & Nicholson, 2003). The extant research shows that firms that adopt higher quality internal and external governance mechanisms are more likely to engage quality external auditors and produce quality financial reports for stakeholders (Cohen, Krishnamoorthy & Wright, 2004; Lin & Hwang, 2010; Pucheta-Martínez & García-Meca, 2014; Srinidhi, He & Firth, 2010). However, corporate governance structures vary across countries, reflecting differences in the business and legal environments (Claessens & Yurtoglu, 2013). Thus, this thesis investigates whether governance mechanisms positively affect financial reporting quality in developing countries, such as Kuwait, where governance is voluntary and the context is unique.

Kuwaiti listed firms operate in a voluntary governance environment because Kuwait is one of the few Middle Eastern countries not to issue a corporate governance code (Koldertsova, 2010). In addition, Kuwaiti listed firms exhibit high ownership concentration, which might compensate for weaker legal protection (La Porta, Lopez-De-Silanes & Shleifer, 1999; La Porta, Lopez-De-Silanes, Shleifer & Vishny, 2000). Further, over 60% of Kuwaiti listed firms implement Islamic business principles that theoretically create a non-asymmetric information agency relationship that is different to those in countries where religion has less effect on business practices. Finally, in contrast to most developed countries, Kuwait requires firms to appoint at least two separate auditors, which are referred to as ‘joint auditors’ or ‘audit pairs’. These unique features of the Kuwaiti market motivated this study to examine the effect of the governance mechanism of ownership structure, the adoption of Islamic business principles and audit pair choice on the quality of financial reporting. First, this thesis explores whether ownership structure or Islamic business principle adoption affect the quality of chosen audit pairs. Second, it examines the relationship between the quality of the chosen audit pairs and the quality of the reported financial information.

1.2 BACKGROUND OF THE STUDY

Agency theory argues that the separation of ownership and management creates agency problems and information asymmetry among corporate stakeholders (Jensen & Meckling, 1976). Governance mechanisms mitigate these agency costs, with higher levels of corporate governance resulting in better monitoring and control of management behaviour (Shleifer & Vishny, 1997), enhanced financial reporting quality (Cohen et al., 2004) and reduced information asymmetry between a firm's principles and agents (Healy & Palepu, 2001; Scott, 1997). As a result, investors and shareholders can depend on reliable and credible reported financial information to make informed investment decisions that improve capital resource allocation (Healy & Palepu, 2001).

Financial reporting quality is affected by interactions between different internal and external governance mechanisms (Cohen et al., 2004), while a firm's corporate governance effectiveness is related to the quality of these internal and external mechanisms. Internal governance mechanisms include audit committees, board structure and performance-related compensation contracts, while external mechanisms include takeovers, product market competition, regulatory frameworks and concentrated ownership (Lange & Sharpe, 1995; Shleifer & Vishny, 1997). Variations in the efficiency of governance mechanisms are based on the different attributes of the surrounding business environment. For example, variations of law enforcement and minority protection among countries yield different sets of governance structures (La Porta et al., 1999). In countries with lower levels of minority investor protection, ownership concentration is considered an effective governance mechanism that provides the required level of monitoring and control (La Porta et al., 1999). Since the controlling shareholders retain substantial cash flow rights, it is expected that they will substitute legal protection and require high levels of monitoring and controlling in order to reduce management's expropriation and improve the firm's performance (Shleifer & Vishny, 1997).

There is consensus in the governance literature that controlling shareholders can rely on external monitoring by high-quality external auditors to restrict management expropriation through improving the quality of financial reporting (Cohen et al., 2004; Fan & Wong, 2005). Jensen and Meckling (1976) argue that the cost of external audits is part of the bonding costs that owners must bear in order to mitigate agency problems. The auditing function reduces information asymmetry between management and

outsiders, as well as management and subordinates (Francis & Wilson, 1988; Knechel, Niemi & Sundgren, 2008). There is a large body of literature on the relationship between the level of agency cost and the quality of external audits. Cohen et al.'s (2004) extensive review of the relationship between audit quality and corporate governance structures reveals that a firm's governance structures are associated with the quality of the external auditor. They posit that an effective, independent audit committee is associated with the quality of the external auditor. Collier and Gregory (1999) find that audit committees are more active in firms where the board members are more independent and when a higher quality auditor is involved. Francis and Wilson (1988) find an association between agency cost and higher quality auditors, with companies choosing 'Big N'[1] audit firms having lower agency costs. Defond's (1992) research demonstrates that agency costs represented by leverage and management ownership are reduced by a change of auditors. Higher quality auditors are found to have greater ability to mitigate agency costs. Collectively, these studies suggest that firms using a higher quality external audit enjoy lower agency costs and less information asymmetry between management, shareholders and investors.

The vast majority of the corporate governance and audit quality literature focuses on developed countries. Very little is known about the relationship between corporate governance, audit quality and the quality of reported financial information in developing countries.[2] To address this gap in the literature, this study examines the audit and financial reporting environment in the recently developed financial market of Kuwait. Three factors motivated the choice of Kuwait as the research location for this study. First, Kuwait is one of the few countries to require joint auditors, with most other jurisdictions only requiring a single auditor. Second, the ownership structure of Kuwaiti firms is dominated by blockholders, including comparatively high family and institutional ownership, as well as significant levels of government and royal family ownership. Third, many Kuwaiti firms exhibit the unique cultural phenomena of adopting Islamic business principles that should, in theory, eliminate information asymmetry. These three factors distinguish the Kuwaiti market from developed markets,

[1] To ensure clarity, this thesis only uses the term 'Big N'. In this term, the 'N' refers to the number of large auditors available in a given time and place. In the Kuwaiti context, the 'Big N' refers to the 'Big 4' auditors: Deloitte & Touche, PricewaterhouseCoopers, Ernst & Young and KPMG.

[2] A few key studies have addressed corporate governance, audit quality and financial reporting quality in developing countries, such as Claessens and Yurtoglu (2013), Claessens and Fan (2002), Doidge et al. (2007) and Fan and Wong (2005).

where much of the prior literature is focused, thereby contributing to understandings of governance, audit quality and reporting quality in developing countries. These three motivating factors will be discussed in turn to develop the core research questions for the study.

The first motivating factor is the limited research on joint audit choice. Only a small number of countries, such as France and Kuwait, require listed firms to be audited by more than one auditor. Kuwait introduced joint audits in 1994 by mandating all listed firms be audited by at least two independent auditors (an audit pair), who issue a single audit report (Ministerial Resolution, 1994). The importance of studying audit pair choice stems from the increasing debate about the advantages and disadvantages of introducing the joint audit requirement to the European market. To date, the literature concerning joint audits is rare and focused on France and a few European countries (Francis, Richard & Vanstraelen, 2009; Piot, 2001; Zerni, 2012; Zerni, Haapamaki, Jarvinen & Niemi, 2012). Currently, there is no joint audit quality research examining the Kuwaiti context. Prior Kuwaiti studies focus on the relationship between corporate governance and firm performance (Alfaraih, Alanezi & Almujamed, 2012; Al-Saidi, 2010), International Financial Reporting Standards (IFRS) compliance (Alanezi, 2006) and financial reporting quality (Algharaballi, 2013). An exception is the study by Alanezi, Alfaraih, Alrashaid and Albolushi (2012), which addresses the effect of joint audit (audit pair choice) on IFRS compliance for a small sample of financial institutions in Kuwait. However, the effect of corporate governance on the quality of audit pairs has yet to be studied. This research addresses this gap in the literature by examining the effect of corporate governance on audit quality in an environment of joint audits.

The second factor motivating this study is the unique blockholder ownership structure in Kuwait. Four major types of owners dominate Kuwaiti firms: institutional, government, family and royal family. The literature provides evidence that the effect of different types of owners on audit quality is driven by the characteristics of each owner type. Institutional ownership exhibits positive and negative effects on audit quality (O'Sullivan, 2000; Zureigat, 2011); however, these conflicting results may be due to treating institutions as homogenous investors (Aggarwal, Erel, Ferreira & Matos, 2011; Ferreira & Matos, 2008; Kane & Velury, 2004; Velury, Reisch & O'Reilly, 2003). This thesis addresses this issue by treating institutional investors as heterogeneous and differentiating between active and passive institutional investors. Family ownership is

dominant in most developing countries, including Kuwait (Claessens, Djankov, Fan & Lang, 2002; Fan & Wong, 2005). This thesis captures family influence by considering the pyramidal structure of family ownership. This contrasts with prior Kuwaiti research that measures family influence as being the presence of family members on the board of directors (Alanezi, 2006; Al-Saidi, 2010). Expanding the measure to examine pyramidal family ownership is expected to provide a greater understanding of the relationship between family ownership and joint audit quality. Finally, examining family ownership in Kuwait provides the opportunity to explore royal family ownership as a special class of family that combines wealth with political power and access to information.

The third motivating factor is the adoption of Islamic business principles, which is a phenomenon unique to Islamic countries, such as Kuwait. It is expected that Islamic business principles will reduce, if not eliminate, the agency issues experienced by conventional firms. Firms in Kuwait voluntarily choose to be Islamic firms by incorporating a sharia supervisory board (SSB) in their organisational structure. Alternatively, they may choose to be Islamic compliant by meeting specific requirements, or they may choose to be a conventional firm. This variation provides an interesting setting to examine how adopting different cultural and value systems may affect decisions regarding the quality of the auditor employed. Moreover, this thesis addresses a gap in the research, with most prior Islamic business literature focusing on the corporate governance of financial institutions (Abdel Karim, 1990; Chapra & Ahamd, 2002; Farook & Farook, 2011; Grais & Pellegrini, 2006b). This thesis includes firms from all Kuwait Stock Exchange (KSE) sectors, excluding banks.

Thus, the Kuwaiti setting can be characterised as consisting of three unique voluntary governance mechanisms: audit pair choice, dominant blockholders and the adoption of Islamic business principles. The interplay of these three governance mechanisms affects financial reporting quality.

1.3 RESEARCH QUESTIONS

This study aims to examine whether the voluntary governance mechanisms of Kuwaiti firms affect their choice of joint auditor pairs, and the consequences of this choice for the firm's financial reporting quality. Therefore, two research questions are proposed. The first is:

What is the relationship between corporate governance structure and joint audit quality for Kuwaiti listed companies?

To investigate this question, this research examines two elements of corporate governance: ownership structure and the adoption of Islamic business principles. Ownership structure mainly focuses on four types of owners: institutional ownership, government ownership, family ownership and royal family ownership. The second research question asks:

What is the effect of the chosen quality of the joint audit on the financial reporting quality?

To investigate the second question, this research examines financial reporting quality in terms of both earnings management and financial restatements. Earnings management assesses the quality of financial reporting in generally accepted accounting principles (GAAP), while restatements indicate low-quality financial reporting that violates GAAP.

1.4 RESEARCH OBJECTIVES

The objective of this study is to examine the relationship between corporate governance and audit quality in the unique Kuwaiti context, which is characterised by low levels of regulatory enforcement, a voluntary governance structure and the joint audit requirement. The objectives of this research are:

1. To determine whether there is a correlation between institutions' ownership and joint audit quality.
2. To examine whether there is variation between different types of institutions regarding their effect on joint audit quality.
3. To determine whether there is a relationship between a special class of families (royal family ownership) and joint audit quality.
4. To clarify whether there is an association between a firm's Islamic status and joint audit quality.
5. To produce evidence to compare with the results of the research conducted by Francis et al. (2009) on the association between joint audit requirements and ownership structure in the French context.

1.5 CONTRIBUTION

This research makes a number of contributions to the external audit quality and corporate governance literature. First, unlike other studies that examine audit quality in highly regulated markets with clear mandated or recommended corporate governance practices—such as the United States (US), the United Kingdom (UK) and Australia—this study is undertaken in a developing market. Compared to those markets, Kuwait has a less transparent system, weak accounting regulations and no code of best governance practices. Examining external joint audit quality and corporate governance in the Kuwaiti context will provide more insights to the governance structure of firms and the effect of this structure on financial reporting quality.

Second, most prior research has been completed in the context of a single audit regulatory environment. This research provides evidence from a context with a joint audit requirement. The joint audit requirement creates a more complex auditor choice than does the typical Big N versus non–Big N dichotomy present in other contexts (Francis et al., 2009). Further, no previous studies have examined audit quality in a context with a different set of business values. This study examines the relationship between adopting Islamic business principles and audit quality. The values of Islamic firms differ from conventional firms because Islamic firms are designed to operate in accordance with religious instructions. Thus, this study makes an innovative contribution to the existing literature by introducing a new setting to be investigated.

Third, this study contributes to the family business literature by introducing a new variable that measures family influence. Studying the role of the royal family in the composition of auditor choice will increase understanding of the effect of families with high political and economic power on the nature of a company's governance. Moreover, no known Middle Eastern research empirically examines the effect of a family's pyramidal ownership on the quality of chosen governance mechanisms. Therefore, this study contributes to the family literature by examining families' pyramidal ownership effect on the quality of joint audits. The study results provide more insight to the association between family ownership and control and joint audits.

Finally, the findings of this study have implications for regulators in Kuwait. The findings raise concerns about the corporate governance practices of the listed firms in the KSE and the quality of the reported financial information. Therefore, the newly

established Commerce and Capital Market Authority (CMA) can benefit from the results to improve and mandate minimum governance mechanisms to ensure more protection is offered to firms' shareholders.

1.6 THESIS OUTLINE

The remainder of this thesis is organised as follows. Chapter 2 provides a review of the literature relevant to this study. This chapter identifies the theoretical foundation for the research and produces hypotheses that test the relationship between audit and financial reporting quality and corporate governance as a driver of higher quality auditing. Chapter 3 presents the research design, which describes the variables, data collection and analysis performed to test the hypotheses developed in Chapter 2. Chapter 4 provides descriptive analyses of the independent, intervening and dependent variables, as well a correlation matrix between all variables. Chapter 5 analyses the data. This chapter focuses on the results of the model developed in Chapter 3, and concludes with a sensitivity analysis to assess the robustness of the results. Chapter 6 discusses the results, identifies the limitations of the study and presents suggestions for future research. This chapter also presents the conclusion, which summarises the results and contribution of the study.

Chapter 2: Literature Review

2.1 INTRODUCTION

The purpose of this chapter is to develop the core hypotheses of the study. First, this chapter describes the context of this study, followed by a review of the model of financial reporting quality (FRQ) drivers. The chapter reviews the prior literature to distil a theoretical relationship between firms' corporate governance, external audits and FRQ. Finally, six hypotheses are presented to test the FRQ drivers model by drawing on the established theoretical relationships.

The remainder of the chapter is structured into five sections. Section 2.2 provides a summary of the important features of the Kuwaiti context. Section 2.3 contains an overview of the FRQ drivers model. Section 2.4 reviews the audit quality and joint audit literature. Section 2.5 discusses the effect of corporate governance dimensions and Islamic principle adoption on the quality of the auditors hired by listed firms. Section 2.6 details the effect of audits on the quality of financial reporting, and Section 2.7 summarises the chapter.

2.2 KUWAITI CONTEXT

The corporate environment and financial markets in Kuwait are a relatively recent phenomenon. KSE commenced operation in 1984 with 30 listed companies, which has grown to over 200 today.[3] The parallel growth of financial markets and regulation in Kuwait is well documented in prior research (Alanezi, 2006; Al-Bannay, 2002; Alfaraih, 2009; Al-Saidi, 2010). The main milestones have been issuing the *Commercial Companies Law No. 15 (1960)*, which established the requirements for financial reporting in Kuwait; adopting the IFRS in 1990, which standardised and improved the quality of financial reporting; and establishing the requirement for listed firms to be audited by at least two separate external auditors, which was implemented in 1994.

Similar to other Middle Eastern countries, the legal and regulatory framework for financial reporting in Kuwait is limited in scope and expressed in general terms. The

[3] For further information about KSE development, see Alanezi (2006).

International Monetary Fund (IMF) (2004) criticises the weakness of the Kuwaiti regulatory framework for the securities market. In an attempt to improve its regulatory environment, Kuwait has made numerous amendments to the commercial law and regulations during the last 20 years (Alfaraih, 2009). In 2011, Kuwait established the CMA, a regulatory body similar to the US Securities Exchange Commission (SEC) and the Australian Securities and Investments Commission. By separating market operational activities from the regulatory and legislative body, the CMA is intended to enhance market transparency, increase investor confidence and provide more protection to market participants. Despite these developments, there are a number of deficiencies in the Kuwait market in relation to corporate governance and levels of disclosure and transparency. Corporate governance practices in Kuwait are voluntary, with limited specific regulations (Koldertsova, 2010), and the level of transparency and compliance with the International Accounting Standards (IAS) and IFRS is questionable (Alanezi, 2006; Alfaraih, 2009). In 2012, the CMA proposed regulations to improve the quality of external audits and, at the time of writing this thesis, the effectiveness of these proposed regulatory changes is under debate (Shawqi, 2014).

Thus, the Kuwaiti context represents an emerging market to investigate voluntary governance practices.[4] Some distinct characteristics of the Kuwaiti market have implications for corporate governance and FRQ (see Appendix A for a review and discussion). Notably, governance in Kuwaiti firms includes a unique ownership structure with high levels of royal family ownership and significant family ownership. The market also requires listed firms to engage two auditors. This joint audit requirement is rare, and introduces agency and audit quality issues to the selection of auditor pairs. Finally, many firms in Kuwait adopt Islamic business principles, which have core values of transparency and open disclosure. This has implications for corporate governance, information asymmetry and FRQ. These three factors combine to create a distinctive environment for governance research to examine the effect of ownership concentration and implementation of Islamic business principles on the quality of financial reporting in an environment of voluntary corporate governance and joint audits.

[4] Appendix A presents a review of the business environment setting in Kuwait and includes details of the Kuwaiti legal framework, financial reporting and audit practices, regulations and corporate governance mechanisms.

2.3 FRQ DRIVERS

This thesis builds on Cohen et al.'s (2004) corporate governance mosaic that models the interplay between various governance stakeholders as the core driver of FRQ. Previous research shows that the quality of a firm's financial reporting is an output of the interaction of different external and internal governance mechanisms. External governance mechanisms include the role of ownership structure, regulatory environment and discipline of stock exchanges. Internal governance mechanisms include the board structure, presence of an audit committee, roles of management and internal auditors, and how these interact with the external auditor (Cohen et al., 2004; Hoitash, Hoitash & Bedard, 2009; Klein, 2002; Wright, 1996).

The FRQ model depicted in Figure 2-1 indicates that governance mechanisms mitigate the core agency theory argument that the separation of ownership and management creates agency problems and information asymmetry among corporate stakeholders (Jensen & Meckling, 1976). Corporate governance structure and external audit are complementary tools aimed at protecting stockholders by reducing information asymmetry through higher quality financial reporting (Fooladi & Ferhadi, 2011; Healy & Palepu, 2001). The controlling owners appoint high-quality external auditors as a monitoring and bonding mechanism to enhance the quality of the reported financial information and protect their interests (Fan & Wong, 2005). The external auditor's role is to verify the appropriateness, completeness, accuracy and timelines of the accounting information (Ronen & Yaari, 2010). Research demonstrates that external audit quality has an important effect on the quality of reported financial statements through improving earnings quality (Becker, Defond, Jiambalvo & Subramanyam, 1998; Francis et al., 2009; Hodgdon, Tondkar, Adhikari & Harless, 2009).[5]

[5] Other studies show the economic benefits of high FRQ, such as a positive association between external audit quality and lower capital costs in debt and equity markets (Karjalainen, 2011; Pittman & Fortin, 2004).

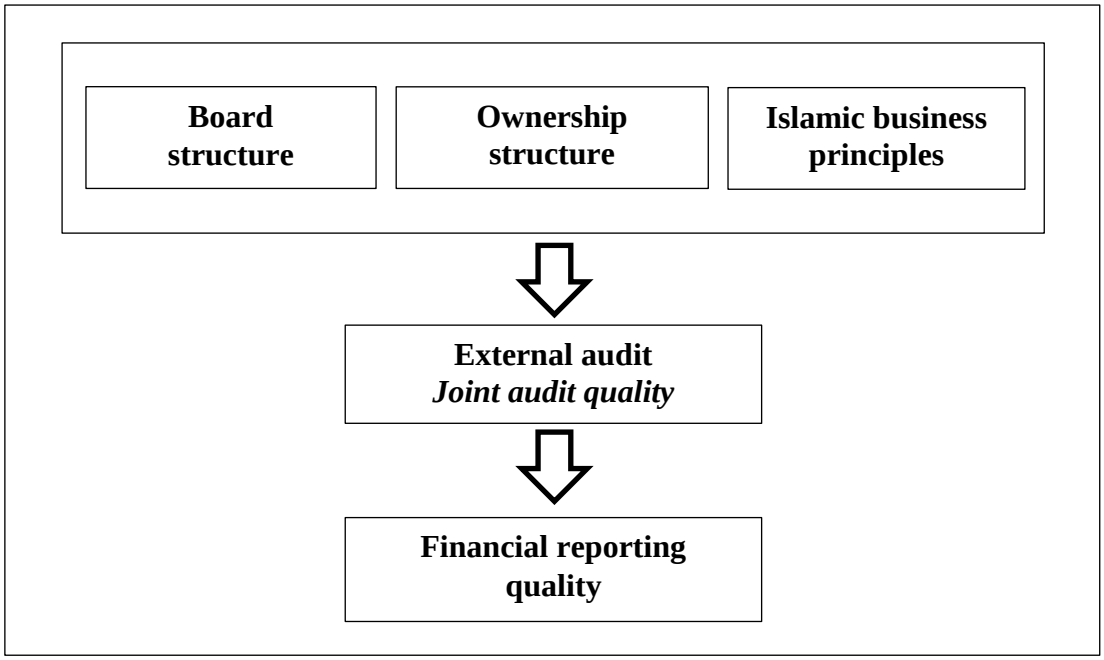

Figure 2-1 FRQ Model

Source: Adapted from Cohen et al. (2004).

The FRQ model in Figure 2-1 adapts Cohen et al.'s (2004) corporate governance mosaic to recognise three factors unique to the Kuwaiti context. First, the governance of Kuwaiti firms is affected by a unique ownership structure consisting of institutional, government, family and royal family ownership. Second, many Kuwaiti firms adopt Islamic business principles. Both these factors potentially improve the governance climate of Kuwaiti firms. Third, Kuwaiti firms must appoint joint auditors, which contrasts with the typical single external auditor regulation in most countries. The potentially improved governance climate resulting from the ownership structure and adoption of Islamic business principles may affect the joint audit quality choice, which may subsequently affect the quality of reported financial information.

To test the FRQ model depicted in Figure 2-1, this study explores two research questions. The first examines the effect of governance mechanisms on the chosen joint audit quality. The second considers whether a high-quality joint audit improves FRQ. In addressing the first question, this study explores the effect of the complex Kuwaiti ownership structure and adoption of Islamic business principles on the chosen joint

audit quality. The low regulatory protection in Kuwait (similar to many Middle East and North Africa [MENA] countries) provides an incentive for blockholder owners to influence a firm's financial reporting process. The adoption of Islamic business principles by some Kuwaiti firms provides an additional religious-based incentive to engage high-quality external audits.

To address the second research question, this thesis explores the relationship between chosen audit pair quality on the quality of reported financial statements. The joint audit requirement in Kuwait provides a rare setting in which the audit choice is more complex than single audit regimes. Joint auditor combinations provide more gradations of quality, depending on the nature of auditor pairing (Francis et al., 2009). This thesis explores the effect of joint audit quality on FRQ in terms of both earnings quality and the frequency of restatements. In the following sections, each of the elements of the FRQ model are discussed, starting with the role of audit quality.

2.4 AUDIT QUALITY

Engaging a higher quality external auditor is expected to be associated with higher quality financial reports, as depicted in Figure 2-1. The rationale of employing a higher quality external auditor is to mitigate the problem of information asymmetry between owners and managers by improving the quality of reported financial information. The objective of the external audit function is recognised by the American Institute of Certified Public Accountants and the International Auditing and Assurance Standards Board as obtaining reasonable assurance regarding whether reported financial statements are free of material misstatements, and communicating results to interested parties (Rittenberg, Johnstone & Gramling, 2010). The importance of this function stems from the reliance of capital market investors on audited financial reports when making rational business decisions (Epstein & Geiger, 1994; Willenborg, 1999). Capital market investors perceive audit quality as an indication of the reliability and accountability of the reported financial statements (Cohen et al., 2004; Ghosh & Moon, 2005; Schmidt & Wilkins, 2011). The audit literature emphasises the variable audit quality between different groups or classes of auditors (Francis, 2004). The market also recognises this variation in audit quality among external auditors, and stock markets react more favourably when a firm switches its external auditor to a higher quality auditor, as measured by size (Nichols & Smith, 1983), industry specialisation (Knechel,

Naiker & Pacheco, 2007; Schauer, 2002) and reputation (Asthana, Balsam & Krishnan, 2010).

Knechel, Krishnan, Pevzner, Stefchik and Velury (2013) note that there is little consensus among researchers regarding the definition of audit quality. Audit quality is defined in numerous ways that link audit quality to the risk of failure to modify audit reports of financial statements that contain material misstatements (Watkins, Hillison & Morecroft, 2004). Nevertheless, a widely used definition of audit quality is that by DeAngelo (1981a), which states that the 'quality of audit service is the market-assessed joint probability that a given auditor will both (a) discover a breach in the client's accounting system and (b) report the breach' (p. 186). Breach detection is related to the auditor's abilities and competence in exercising control over the quality of reported information through assuring conformity with GAAP, while reporting a breach is related to the auditor's independence, which is an important driver for the demand of the audit service.

However, audit quality cannot be observed because the only outcome of the audit process is the audit report. Francis (2004) argues that, even though an audit report is a generic template and most audit reports are standard, clean reports, audit quality differences do exist and can be noticed by comparing different groups of auditors. The size of audit firms is one of the early quality indicators used in the literature to differentiate between audit firms (Francis, 2004). DeAngelo (1981b) argues that the larger the audit firm size, the higher the quality of the audit because having a large number of audit clients makes it less likely for an audit firm to compromise their independence or reputation. In line with DeAngelo's (1981b) argument, some research argues that Big N audit firms are heavily invested in their brand name and thus have incentives to provide higher quality audits in order to protect their reputation (Francis & Wilson, 1988; Simunic & Stein, 1987). Further, Big N audit firms can provide a higher audit quality because their size enables them to provide more training programs, different audit methodologies and options for appropriate partner reviews (Francis, Michas & Yu, 2013a; Lawrence et al., 2011). There is evidence in the literature that the fees of Big N audit firms carry a premium relative to other audit firms (Andre, Broye, Pong & Schatt, 2011; Francis, 1984; Francis & Stokes, 1986) and this premium reflects the quality of services rendered. Audit clients are willing to pay higher fees for higher quality audits in order to reduce information asymmetry between a firm's management

and stakeholders (Clatworthy et al., 2009; Peel & Makepeace, 2012; Simunic & Stein, 1987).[6]

However, audit quality studies have been undertaken in contexts that require a single audit engagement. In settings that require joint audit function, it is expected that the decisions to choose auditors' quality level are more complex than the typical Big N versus non–Big N dichotomy (Francis et al., 2009). Moreover, the joint audit requirement is a potential way to increase the quality of audit function and improve market competition among auditors (Andre et al., 2011; Herbinet, 2007; Hughes, 2007). As a corporate governance mechanism, a joint audit is a tool to improve monitoring and safeguard minority investments in firms with strong minority owners (Zerni, Kallunki & Nilsson, 2010). Kuwait adopted the joint audit requirement in 1994 as a response to auditors' demand to open the market and improve the quality of audit function. The next section discusses the joint audit literature and the influence on audit quality of employing two auditors.

2.4.1 JOINT AUDIT AND AUDIT QUALITY

The requirement for companies to have joint audits only exists in a limited number of countries in addition to Kuwait, such as France and its previous colonies—Algeria, Morocco, the Ivory Coast and the Congo. It was also a requirement in Denmark until 2004 (Zerni et al., 2012). Therefore, the literature concerning joint audits is rare and mainly focused on France and Denmark. The debate about joint audit requirements in the European market is increasing, especially following the publication of the Oxera Consulting (2006) report, *Competition and Choice in the UK Audit Market*. This report indicates that the audit market in the UK is concentrated and manipulated by the Big N auditors. The report indicates that 99 companies of the Financial Times Stock Exchange

[6] Industry specialisation has also been used in the literature as an indicator of auditor quality. Audit firms with industry specialisation through experience working in an industry are able to render higher quality audit services for that industry (Solomon et al., 1999). As audit firms acquire more clients from an industry, their audit staff will gain increased industry knowledge, which enhances the firm's reputation as an industry expert. The market distinguishes between industry experts and non–industry experts by variation in audit fees. Research finds that audit firms considered industry experts charge a fee premium relative to other Big N audit firms in the US (Francis, Reichelt et al., 2005), Australia (Ferguson et al., 2003) and Hong Kong (DeFond, Francis & Wong, 2000). Moreover, research suggests that auditor industry specialisation is associated with improved error detection and FRQ (Jaggi et al., 2012; Romanus et al., 2008a). Carcello and Nagy (2004) find a significant negative relationship between external auditor industry specialisation and financial fraud. Dunn et al. (2000) find that financial analysts rank clients of industry-specialist audit firms higher in terms of disclosure quality than clients of non-specialists. Balsam et al. (2003) document that firms audited by industry specialists are associated with fewer abnormal accruals and a higher level of earnings response coefficients.

(FTSE) 100 are audited by a Big N firm, and 99% of audit fees in the FTSE 350 are paid to Big N firms. Herbinet (2007) argues that the joint audit requirement should be considered a mechanism to open up the audit market and promote audit quality, confidence in the audit function, and the reliability and usefulness of financial reporting. Recently, the European Commission (2010) issued a Green Paper titled, *Audit Policy: Lessons from the Crisis*. This paper proposes several regulatory actions aimed to stimulate market confidence in audit functions. One of those actions is to mandate joint audits. In a joint audit, at least two auditors from separate audit firms conduct the audit and sign the audit report, with shared responsibility for the issued opinion (Zerni et al., 2010).

The joint audit system was promoted in the Green Paper because a joint audit can be used as a mechanism to improve audit quality and reduce market monopoly by Big N audit firms (European Commission, 2010; Herbinet, 2007; Zerni et al., 2010; Zerni et al., 2012). The expectation is that the higher audit quality promoted through joint audits will enable auditors to provide a higher level of monitoring and control over the reported financial information, leading to higher quality financial statements (Becker et al., 1998), less information asymmetry between agents and principles and more efficient economic decisions (Biddle, Hilary & Verdi, 2009; Healy & Palepu, 2001).

The association between joint audits and higher audit quality is supported by several arguments. First, firms that adopt joint audits have greater opportunity for auditor change without compromising auditors' knowledge and understanding of the client's business operations. Auditor change is a positive action for a firm because voluntary auditor change is associated with higher audit quality (Cameran, Prencipe & Trombetta, 2008), and using long-tenure auditors has a negative effect on the auditors' independence due to the social bonds that develop over time (Brooks, Cheng & Reichelt, 2012). Therefore, the increased ease of auditor change in a joint audit environment improves audit quality and auditor independence, without losing auditors' understanding and expertise of the client's business operations (Zerni et al., 2012), and changing auditors does not reduce the role of the audit function to monitor financial information preparation and reporting.

Second, in a joint audit, the audit and non-audit fees are distributed between two auditors. This is expected to mitigate the economic bond of the auditor to a firm, thereby enabling auditors to behave more independently. Auditors in a joint audit

engagement have less bonding effect than do auditors in a single audit, which means they can express their opinions more independently and may find it easier to stand against proposals from management or controlling owners (Zerni et al., 2010; Zerni et al., 2012).

Third, in line with DeAngelo's (1981b) argument that bigger is better, single audit firms have a binary audit quality choice—of either a Big N or non–Big N auditor—while joint audit firms have more options from which to choose. The pair of auditors might be from two Big N firms, or from one Big N and one non–Big N firm (Francis et al., 2009). Therefore, in a joint audit environment, client firms have more quality level options. Moreover, firms' ability to choose the audit pair composition enables them to choose auditors with different areas of specialisation, which can contribute to the quality of the audit.

The European joint audit literature contains contradictory results concerning the relationship between joint audits and audit quality (Ratzinger-Sakel, Audousset-Coulier, Kettunen & Lesage, 2012). The European market includes settings with a voluntary joint audit (the Danish and Swedish markets) and mandatory joint audit environment (France). The voluntary setting is more appropriate to examine when comparing the difference between the effects of joint and single audits on audit quality. Firms in a voluntary setting experience the same business environment; thus, the research can determine whether joint audits make a difference.

Zerni et al. (2012) examine joint audit practices and their effect on audit quality in Sweden, where joint audits are voluntary. The results suggest that companies that voluntarily choose joint audits are associated with a higher degree of earnings conservatism, lower abnormal accruals, better credit ratings and lower risk forecasts of becoming insolvent within the next year. These findings are consistent with the view that joint audits improve both actual and perceived audit quality. In a Swedish study, Zerni et al. (2010) examine whether joint audit can effectively mitigate entrenchment discounts. They find significant entrenchment discounts in single audit contexts for clients of Big N auditors and non–Big N auditors, and find no significant entrenchment discounts in a joint audit context. This result indicates that joint audits lead to higher perceived audit quality due to more rigorous monitoring.

In research that contradicts these results, Holm and Thinggaard (2011; 2012) examine the effect of joint audits on audit quality in Denmark—a setting that has

switched from a mandatory joint audit regime to a voluntary joint audit regime. They find that single audits are just as effective as joint audits in mitigating earnings management. Thus, there is no significant audit quality difference between a single and joint audit. Additionally, Leasage et al. (2012) indicate that, in the Denmark market, there is no association between audit quality and joint audit practice. These variations in results among Scandinavian countries can be attributed to the differences in the institutional environment. Eilifsen and Willekens (2008) argue that there are significant differences in audit quality among European audit markets and that the institutional environment is very important in understanding these audit quality differences.

The mandatory joint audit literature is mainly related to developed countries, such as France and Denmark. France introduced the joint audit requirement in 1966, while Danish firms were required to be audited by two audit firms from 1930 to 2004 (Lesage, Ratzinger-Sakel & Kettunen, 2012). In line with the argument that the joint audit requirement opens the audit market and increases competition among audit firms, Thinggaard and Kiertzner (2008) study the determinants of audit fees in the Denmark audit market, where it was mandatory that listed firms have a joint audit. Their results indicate that, in a competitive environment, having two independent auditors is likely to reduce total audit fees. Moreover, they find that the reduction in audit fees is statistically significant in large companies.

Francis et al. (2009) argue that French audit practices align with the agency theory expectation that firms with more asymmetry information problems tend to use higher quality audit pairs to mitigate this problem. They find that French firms with less concentrated ownership and greater levels of public and international ownership (a high information asymmetry problem) tend to employ higher quality audit pairs in order to mitigate agency problems. They also find that family businesses require lower quality audits because of the low level of information asymmetry between owners and management.

Piot (2001) investigates the relationship between agency cost level and audit quality in the French market, with the expectation that firms with higher insider ownership (managers, directors and employee ownership) would be associated with hiring lesser quality auditors. His contradictory results indicate that, in the French context, insider ownership is associated positively with audit quality. He argues that the theory regarding concentrated ownership and its effect on the quality of audits does not

apply in the French context. However, he assumes that, in France, managers are interested in signalling the quality of accounting information to outside investors, regardless of the weight of minority shareholders. The contradictory results of Piot (2001) and Francis et al. (2009) can be attributed to differences in the ownership variable. Piot (2001) did not incorporate ownership concentration, other than insider ownership, and the French market is characterised by ownership concentrations, such as family and international ownership (Francis et al., 2009).

Kuwait is one of the few developing countries to have introduced the joint audit requirement. In 1994, the Ministry of Commerce and Industry (MCI) issued *Law No. 51 (1994)*, which requires all listed firms to be audited by at least two external auditors from two separate audit firms. Al-Hussaini (2000) argues that the joint audit requirement was introduced in Kuwait in order to protect shareholders' interest after a wave of early financial scandals. The consequences of the 1982 market collapse (the Manakh crisis[7]), $200 million Oil Tankers Company scandal in 1991 and $5 billion GrupoTorras (the publicly held Spanish unit of the London-based Kuwait Investment Office) scandal in 1993 increased regulator awareness of the importance of auditing and monitoring public firms (Al-Yaqout, 2006; Ibrahim, 1993). Moreover, at that time, the Kuwait government had a high share of ownership in publicly listed companies (Chalk, El-Erian, Fennell, Kireyev & Wilson, 1997). As a result, the National Assembly passed several laws aimed at improving the public monitoring of state investments. In the interest of improving public funds monitoring, the joint audit requirement was issued in 1994.

Another reason that Kuwaiti regulators introduced the joint audit requirement was suggested in an interview with Dr Shuaib.[8] Dr Shuaib stated that Kuwait introduced the joint audit requirement in 1994 because the Kuwaiti market was very small and the

[7] The Manakh market was the unofficial trader of non-Kuwaiti companies listed in other Gulf States. The crisis began when the price and volume of traded stocks multiplied several times over a short period and stock trading became widespread among Kuwaitis. This unusual situation attracted people from different areas of society, including businesspeople, senior citizens, employees, military personnel and students. In 1982, a number of key investors failed to pay their obligations due to heavy forward sales and transactions. Share prices fell and the majority of key traders, who dealt in post-dated cheques, failed to meet their obligations. A chain of payment problems resulted because most of these cheques were transferred between several investors. August 1982 saw the end of the Manakh market's spectacular emergence and growth (Alyaqout, 2006).

[8] Dr Shuaib is a pioneer in writing accounting articles about Kuwait, and has been doing so since 1978. He is also a former Kuwait University General Director. At the time of writing this thesis, Dr Shuaib is the Managing Partner of the RSM Albazie & Co. audit firm.

audit market was dominant by a limited number of audit firms, which were predominantly Big N firms. There were very few local audit firms. Regulators aimed to open the market (in 1994, there were only 41 listed companies in the KSE) and subsequently increase the number of participants by introducing the joint audit requirement. Eyad Al-Rashaid[9] supports Dr Shuaib's view and adds that local auditing firms at that time formed a lobby group to convince the Kuwaiti government of the need to open the market and give local audit firms the chance to work in the market. This argument of opening the audit market is supported by the recent European debate that joint audits are needed to increase competition and quality in the audit market (Herbinet, 2007).

The combination of audit pairs in Kuwait shows that there is a gradation in audit quality and that listed firms have more options for audit quality. This study examines the effect of corporate governance mechanisms on joint audit choice.

2.5 CORPORATE GOVERNANCE DIMENSIONS

Corporate governance mechanisms vary widely across countries and firms (Doidge, Karolyi & Stuls, 2007). The nature of a country's characteristics—such as cultural, financial and economic factors and regulations development—play an important role in firms' decisions to implement certain governance mechanisms. In countries with less legal protection for investors and looser takeover governance mechanisms, ownership concentration is viewed as a substitute governance structure that ensures greater protection for investors (John & Kedia, 2006; La Porta, Lopez-de-Silanes, Shleifer & Vishny, 1998). Moreover, the level of financial transparency and disclosure is related to the origin of law and cultural differences (Hope, 2003). Using language and religion as a proxy of countries' cultures, Stulz and Williamson (2003) find that countries' cultures are always significantly associated with the level of investor protection. Therefore, it is expected that developing countries such as Kuwait, which are characterised by a recently developed stock market, economic uncertainties and weak legal controls and investor protection, will have different governance structures to Anglo-American countries (Tsamenyi, Enninful-Adu & Onumah, 2007). Ownership

[9] Eyad Al-Rashaid is Chief Auditor at RSM Albazie & Co. He became a Certified Public Accountant in the US in 1998 and a Certified Management Accountant in 1998. His other titles include Accredited Tax Preparer (in 1998), Certified Internal Auditor (in 2001) and Certified Information System Auditor (in 2002).

structure and the adoption of Islamic business principles are key distinguishing governance mechanisms in Kuwait (as depicted in Figure 2-1).

The prior literature presents several dimensions of governance in developing countries, such as board structure (Liu & Lu, 2007), ownership structure (Tsamenyi et al., 2007; Yuan, Hua & Junxi, 2007; Zureigat, 2011), board composition (Haniffa & Huduib, 2006; Veysel & Ekrem, 2006), audit committee (Abdul Rahman & Ali, 2006; Jaggi & Leung, 2007) and external audits (Fan & Wong, 2005). Figure 2-2 presents the dimensions of corporate governance in Kuwait, including the board structure, ownership structure and adoption of Islamic business principles. However, this thesis focuses mainly on the four types of ownership structure (institutional, government, family and royal family ownership) and the adoption of Islamic business principles. The traditional governance mechanisms—such as audit committee and chief executive officer (CEO) involvement in the board of directors—are included in the analysis as control variables.

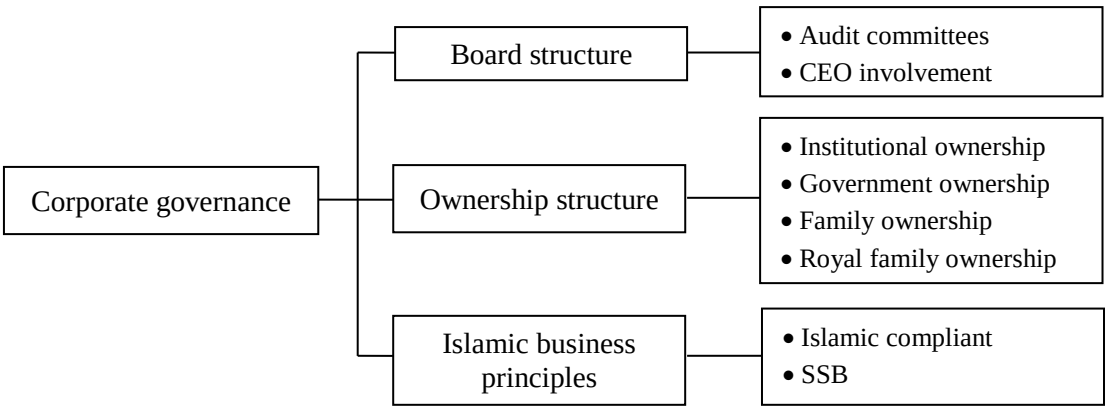

Figure 2-2 Kuwait Corporate Governance Dimensions

The ownership structure mechanism of corporate governance reflects the ability of blockholders to form the board and monitor management performance. This monitoring is facilitated by the incentives and power of blockholders. The incentive for owners to form concentration of ownership is to obtain more power over firms in excess of their cash flow rights (La Porta et al., 1999). In contexts with weak legal protection, owners also tend to acquire more shares to form a concentration of ownership that enables them to protect their interest in the firm (La Porta et al., 1998). Existing research documents the relationship between ownership structure and agency cost (Fleming, Heaney & McCosker, 2005; Henry, 2010), firms' performance (Claessens & Djankov, 1999; Yabei

& Izumida, 2008), quality of external audits (Zureigat, 2011) and quality of financial reporting (Chen-Lung, Kleinman, Picheng & Mei-Feng, 2006; Fan & Wong, 2002). As depicted in Figure 2-2, in Kuwait, the structure of ownership concentration dimension is represented by the institution's ownership, government ownership, family ownership and (as a special class of families) royal family ownership.

Adoption of Islamic business principles is a unique dimension of governance in Kuwait that demonstrates the effect of different cultural and value systems on firms' internal governance structure. It is argued that when firms experience a corporate structure that is different to the conventional structure, agency problems and governance structures become more complex (Kapopoulos & Lazaretou, 2007). The adoption of Islamic business principles raises the problem of compliance with Islamic rules (sharia) as an agency issue. A core element of Islamic business principles is a non-asymmetric information agency relationship. Thus, theoretically, Islamic business entities should disclose sufficient and accurate financial information to all expected users (Abu-Tapanjeh, 2009; Bhatti, 2010). Moreover, according to sharia law, Muslims are not allowed to engage in activities involving interest (*Riba*), speculation (*Gharar*), alcohol, tobacco or gambling (Naser, 2011). Capital providers (shareholders and investors) are very focused on ensuring that their capital is invested in a sharia-compliant manner (Chapra & Ahamd, 2002). Thus, agency problems arise if managers of Islamic financial institutions fail to invest supplied funds in a sharia-compliant manner. This kind of agency problem is an addition to the conventional agency problems related to failure of managers to maximise shareholders' wealth (Safieddine, 2009).

Agency theory argues that firms with increasing agency problems tend to use higher levels of governance mechanisms to reduce agency problems and signal the alignment of investors' and management's interest. In order to mitigate the agency problems associated with adopting Islamic business principles, the literature recommends different mechanisms in addition to regular governance mechanisms, such as the board of directors, audit committee and internal audits. To ensure businesses' compliance with Islamic rules and regulations, an SSB is established. An SSB is a control body that consists of a number of religious advisers whose purpose is to ensure that Islamic financial institutions operate according to Islamic rules, and to provide guidance and clarification to management if they have questions regarding their

financial operations and compatibility with Islamic rules (Grais & Pellegrini, 2006a; Rammal & Parker, 2010).

The FRQ model suggests that ownership structure and adopting Islamic business principles are the key drivers of joint audit quality, leading to higher quality financial reporting. The ownership structure includes institutional ownership, government ownership, family ownership and royal family ownership. The following sections detail the effect of ownership structure and adopting Islamic business principles on joint audit quality.

2.5.1 INSTITUTIONAL OWNERSHIP

A number of studies have investigated the role of institutional investors in corporate governance, and the resultant effects of their involvement in fostering an effective governance structure aimed at reducing self-serving management behaviour (Chung, Firth & Kim, 2002; Gillan & Starks, 2000; Gorton & Kahl, 1999). Unlike small shareholders, because of the size of their financial interest and independence, institutional investors have incentives to bear the cost of monitoring management (Gillan & Starks, 2003; Gorton & Kahl, 1999) and demand a higher quality audit function (Han, Kang & Rees, 2013). This relationship is depicted in Figure 2-3.

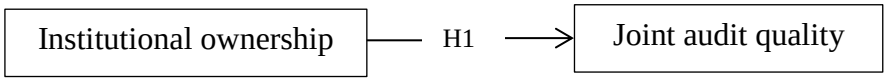

Figure 2-3 Institutional Ownership and Joint Audit Quality

As the role of institutional investors has become a topic of vigorous academic and regulatory debate, efforts have been undertaken to empirically examine the effect of institutional investors on different business aspects. During the last decade, a number of studies have investigated the relationship of institutional investors' ownership to firms' reporting quality, the level and quality of monitoring and firms' value and performance. The current researcher undertook a systematic search for empirical studies that have appeared in major journals in disciplines, such as finance, accounting and management, in order to identify recent studies related to institutional investors. Table B-1 in Appendix B contains a summary and indicative sample of existing studies on institutional investors, and provides information on the studies' context, sample

characteristics, applied definition of institutional investor, measures of independent and dependent variables, and major findings.

The review of institutional ownership literature in Appendix B and Table B-1 reveals mixed and contradicting results of the relationship between institutional ownership and joint audit quality. The reasons for these conflicting results can be summarised as follows. First, the literature review shows that there is no universally acknowledged definition of 'institutional investor'. This lack of a definition may lead to different categorisation of institutional investors, thereby creating contradicting results. Second, the research shows inconsistency in dealing with the homogeneity of different types of institutional investors. Some research treats different types of institutions as homogenous investors with the same characteristics and same effect on the quality of monitoring and audits, and some research does not. This creates issues in comparing and interpreting the studies' results. Third, some studies differentiate between institutional investors and other non-institutional large blockholders, while other studies do not recognise this difference and treat institutions as part of the other large blockholders. Non-differential treatment obscures the critical differences between institutional investors and other large blockholders. See Appendix B for more discussion of the reasons for these mixed results regarding the relationship between institutional ownership and audit quality.

One of the contributions of this research is to study the nature of institutional investors and develop a definition specifically related to the Kuwait context. Existing studies that examine the Kuwaiti market consider institutional investors as vital investors with an important effect on FRQ (Al-Shammari, Brown & Tarca, 2008), corporate governance (Al-Saidi, 2010) and firms' performance and value (Al Mutairi & Hasan, 2010). Al-Shammari et al. (2008) indicate that, among Gulf Cooperation Council (GCC)[10] member states, Kuwait has the highest institutional ownership. They argue that institutional investors have substantial ownership in companies listed in the KSE and have an important effect on FRQ (Al-Shammari et al., 2008).

Al-Shammari et al. (2008) use institutional investors as a proxy of Kuwaiti firms' ownership diffusion. They do not specify which institutional investors they use and it is unclear whether they distinguish between institutional and non-institutional investors.

[10] The GCC members are Bahrain, Oman, Kuwait, Qatar, Saudi Arabia and the United Arab Emirates.

Moreover, they do not consider the issue of heterogeneity among institutional investors. Al-Saidi (2010) argues that institutional investors are the largest investors in the Kuwaiti market, with ownership at 44% of total equity. However, he does not clearly define what is considered an institutional investor in Kuwait, and includes any shareholder who owns 5% of total equity (other than individuals or the government) as an institutional investor. Therefore, it is very likely that Al-Saidi (2010) fails to distinguish between institutional and non-institutional blockholders. Almutairi and Hasan (2010) use ownership of any entities labelled 'company' as a proxy of institutional investor ownership. The problem with this definition is that, in the Kuwaiti market, most of the unlisted and some listed companies investing on other listed companies are family businesses. In Kuwait, it is a common practice for families to use their own companies as vehicles to invest in listed companies. It is expected that the quality of monitoring and agency problems will be different between family and institutional investors (Francis et al., 2009). Al-Yaqout (2006) focuses on one type of institutional investor in Kuwait—investment portfolios—and omits other important institutional investors in Kuwait, such as banks, insurance companies and mutual funds. Therefore, it can concluded that Kuwaiti studies reflect the confusion indicated in the literature (as shown in Table B-1) by not providing a specific definition for institutional investor in the context of Kuwait, not distinguishing between institutional and non-institutional large blockholders, and treating institutional investors as a homogenous group. The absence of an academic or official definition of institutional investors in Kuwait means that Kuwaiti studies add to the general dilemma evident in institutional investors' literature concerning what defines an institutional investor.

In this thesis, institutional investors in Kuwait are defined by using the institutional characteristics mentioned in the literature. Institutional investors are characterised by investing on behalf of others (Grinstein & Michaely, 2005), being more regulated than other non-institutional investors (Davis, 2002b; Gillan & Starks, 2003), being run by professional managers (Gorton & Kahl, 1999) and being relatively more informed investors (Akins, Ng & Verdi, 2012). By applying those characteristics to the Kuwaiti market, this thesis defines institutional investors in Kuwait as specialised financial intermediaries who collect and manage funds on behalf of small investors in order to attain specific objectives. Thus, the major types of institutional investors in Kuwait are banks, insurance companies, mutual funds and foreign investors. Those four

institutional investors mainly invest on behalf of others, and are run by professional managers. To satisfy their clients and achieve higher returns on their investments, institutional investors are expected to require higher levels of corporate governance quality and information disclosure, and be associated with higher quality audit function. This leads to the following hypothesis:

H_{1a}: Companies with greater institutional investor ownership are more likely to employ a higher quality joint audit.

Institutional investors in Kuwait are not homogenous. While some general features are common to the four types of institutional investors in Kuwait, there are major differences in their incentives to invest and in their relationship to the management of investee firms. The four types of institutional investors in Kuwait face higher levels of regulation than do other non-institutional investors, and are run by professional managers. Banks, insurance companies and mutual funds are regulated by the Kuwait Central Bank and MCI, while foreign institutional investors are regulated by the Kuwait Foreign Investment Bureau. The major difference among institutional investors in Kuwait is the cross-holding of banks and insurance companies. Kuwaiti banks and insurance companies are listed companies investing in other listed companies. Therefore, bank and insurance company ownership might have other objectives, such as operating and opening new markets for long-term investments. Conventional Kuwaiti banks and insurance companies investing in Islamic banks and insurance companies is an example of investment for other objectives. These investments have the aim of entering a new market (the Islamic market) and attracting Islamic funds. Therefore, it is expected that banks and insurance companies have access to more private information and will maintain a close relationship with the management of investee firms (Al-Shimmiri, 2003). This raises the issue of heterogeneity among institutional investors in Kuwait, where banks and insurance companies may act as 'grey'[11] institutional investors, and do not require as high a quality of external audit as do mutual funds and foreign investors.

Mutual funds in Kuwait are designed for liquidity. Investors can redeem their shares at specific times of the year at the market price. Therefore, mutual fund managers

[11] 'Grey' institutional investors are investors with business relationships with firms in which they invest. Such a relationship may induce institutional investors to be more passive regarding management actions (Ferreira & Matos, 2008).

are not expected to have a close relationship with the management of the investee firms, and are expected to demand higher quality external audits to mitigate agency problems created by the separation of owners and managers. Moreover, the literature provides evidence that mutual fund ownership is associated with higher audit quality (Chou, Zaiats & Zhang, 2014) and higher FRQ (Aggarwal, Klapper & Wysocki, 2005; Bradshaw, Bushee & Miller, 2004).

The ownership of traded stocks on the KSE by foreign institutions began after 2000.[12] Gillan and Stark (2003) argue that foreign institutional investors are associated with better corporate governance. They assert that either firms tend to improve their corporate governance to attract foreign capital, or foreign institutional investors encourage firms to adopt better governance practices. The literature provides evidence that foreign investors play a vital role in demanding higher quality external audits (Guedhami, Pittman & Saffar, 2009; Zureigat, 2011), improving firms' performance (Aydin, Sayim & Yalama, 2007; Ferreira & Matos, 2008) and enhancing firms' corporate governance (Ananchotikul, 2007; Kim, Jiyeon, Kim & Byun, 2010). This line of research suggests that mutual funds and foreign institutional ownership are associated with higher audit quality. This implication gives rise to the following hypotheses:

H_{1b}: Companies with greater bank and insurance company ownership are less likely to employ a higher quality joint audit.

H_{1c}: Companies with greater mutual fund and foreign investor ownership are more likely to employ a higher quality joint audit.

2.5.2 GOVERNMENT OWNERSHIP

There are two different arguments regarding why governments invest in listed companies (Bushman, Piotroski & Smith, 2004). One view posits that governments invest in listed companies as a response to a market failure or financial crisis, with social objectives that the free market cannot achieve (Shleifer & Vishny, 1994). The other view argues that governments invest for political reasons, such as reward-related parties, elections and voting matters (Boubakri, Cosset, Guedhami & Saffar, 2011; Shleifer & Vishny, 1994). In Kuwait, government investment in listed firms is driven by

[12] Until 2000, foreign investors were not allowed to invest in the Kuwaiti stock market. However, in response to the demand to open the market and attract more investors, the Kuwaiti government issued the Ameri Decree (2001), which amended the 15/1960 law and allowed foreign investors to invest in listed Kuwaiti firms.

social and political factors (Alfaraih et al., 2012). The Kuwaiti government became heavily involved in investing in listed firms as a response to the 1982 market collapse (the Manakh Crisis). At that time, Kuwaiti government investment was to absorb the crisis's social consequences and support the market (Chalk et al., 1997). Both views of government investment in listed companies suggest that government objectives are not related to firms' performance or profitability (Zou & Adams, 2008). Thus, government ownership is less concerned with investee financial information transparency. The literature's findings support the notion of a negative association between government ownership and FRQ (Bushman et al., 2004; Chan, Lin & Zhang, 2007; Guedhami et al., 2009; Wang, Wong & Xia, 2008). Therefore, this thesis suggests that Kuwaiti government ownership has a negative effect on the quality of joint audits, as depicted in Figure 2-4.

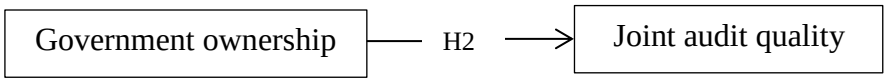

Figure 2-4 Government Ownership and Joint Audit Quality

Shleifer and Vishny (1997) argue that, in theory, state firms are owned and controlled by the public; however, in reality, these firms are controlled by government representatives. These representatives have concentrated control over firms' resources, but no significant cash flow rights. Therefore, it is expected that government representatives pursue goals that are very different to the government's social welfare goals. This creates agency problems and incentives for poor performance to be hidden by low-quality financial reporting. Government ownership has a negative relationship with performance in the Spanish market (Orden & Garmendia, 2005), Jordanian market (Zeitun & Tian, 2007), Turkish market (Gursoy & Aydogan, 2002) and Malaysian market (Ab Razak, Ahmad & Joher, 2011). In Kuwait, Alfaraih et al. (2012) use a sample of 134 listed firms to examine the relationship between government ownership and firms' performance. They conclude that Kuwaiti government ownership is negatively associated with firms' performance, and argue that this result is driven by a lack of government entrepreneurial attitude and its political, rather than commercial, motivations.

Regarding FRQ, Bushman et al. (2004) find that financial transparency is low in countries with high government ownership. Politically connected firms report low transparency financial statements to protect politicians from being legally questioned (Leuz & Oberholzer-Gee, 2006). Subsequently, the entrenchment behaviour of management and government representatives in firms can be hidden through opportunistic financial statements. Chaney, Faccio and Parsley (2011) examine the quality of accounting information in politically connected firms in 19 developed and developing countries. They conclude that the quality of reported accounting information for politically connected firms is systematically lower than the accounting information of firms with no political connection.

Since firms with greater government ownership have incentives to protect their political interests, they may prefer to hire low-quality auditors in order to produce less informative financial statements (Guedhami et al., 2009). Wang et al. (2008) argue that government ownership is an important factor in firms' choice of auditor. Wang et al. (2008) find that, compared to non-government-owned firms, government-owned firms are more likely to hire small, local auditors. They attribute this result to the preferential treatment given to government-owned firms by the government. Such preferential treatment is driven by political, rather than economic, objectives. Moreover, government-owned firms are less encouraged to hire high-quality audit firms because, in the case of financial failures, the government will provide the bailout needed. In contrast, firms with no government ownership will receive no support from the government during financial failure; thus, they need to hire higher quality audit firms to reduce the risk of financial failure (Wang et al., 2008). Thus, when government ownership is reduced, shareholders require more transparent, high-quality accounting information, which encourages firms to hire higher quality audit functions (Chan et al., 2007). Guedhami et al. (2009) extend Wang et al.'s (2008) and Chan et al.'s (2007) research to examine 176 privatised firms from 32 countries. They find strong evidence that privatised firms with remaining government ownership are less likely to appoint Big N auditors. In order to conceal their politically motivated behaviour, firms with governmental ownership tend to avoid hiring Big N auditors in order to render low-quality financial statements that do not represent their actual performance (Guedhami et al., 2009).

The Kuwaiti government has an interest in many Kuwaiti listed firms. It holds substantial equity ownership in the manufacturing (11.5%), services (11.22%) and investments (10.75%) industries, and holds small equity ownership in the insurance (7.06%) and food (8.57%) industries (Al Mutairi, 2011). Moreover, the Kuwait government owns around 15% of the largest 20 listed firms (KAMCO, 2012). The Kuwait government's investment is driven by social and political factors, and is expected to be less concerned with reporting higher quality financial information (Alfaraih et al., 2012). Based on the findings from the literature, it is reasonable to assume that firms with greater government ownership are negatively associated with joint audit quality. This leads to the following hypothesis:

H_2: Companies with greater government ownership are less likely to employ a higher quality joint audit.

2.5.3 FAMILY OWNERSHIP

Family firms involve two types of agency relationships: a 'Type I' agency problem relating to the separation of ownership and control, and a 'Type II' agency problem relating to the gap in rights between the controlling and minority shareholders (Morck & Yeung, 2003). The family business literature argues that family firms face less Type I and more Type II agency problems (Anderson, Mansi & Reeb, 2004; Anderson & Reeb, 2003; Demsetz & Lehn, 1985). Due to their interest in the company, controlling families provide better monitoring and control of management's actions and decisions, which results in reduced Type I agency problems. However, because of the controlling family's incentives and expropriation and enjoyment of private rent, Type II problems increase. Therefore, agency theory suggests that family ownership may either mitigate or increase agency problems. The family business literature produces mixed results of the effect of family ownership on the financial reporting and audit quality. Figure 2-5 builds on the literature and posits that the level of family ownership affects joint audit quality.

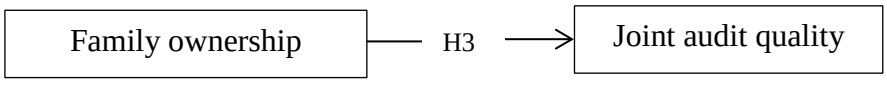

Figure 2-5 Family Ownership and Joint Audit Quality

This relationship functions to either increase or decrease audit quality. The controlling family focuses on long-term survival and maintaining good relationships with other shareholders and debt holders; thus, they adopt governance mechanisms that aim to reduce agency problems (Anderson & Reeb, 2003). This implies that firms with family ownership are associated with less opportunistic behaviour and higher FRQ (Wang, 2006). Family firms use auditing quality choice and the structure of their boards to signal non-expropriation behaviour to external investors. Srinidhi et al. (2010) find that, in the US context, older and larger family firms tend to hire specialist auditors and demand higher audit efforts, as indicated by audit fees. In a developing context, Fan and Wong (2005) study whether external audits function as effective governance mechanisms in the emerging markets of eight East Asian countries. They argue that, in emerging markets and because of higher ownership concentration, regular governance mechanisms—such as board structure and takeovers—are insufficient to mitigate agency problems. Their results indicate that firms subject to increased agency problems are more likely to hire higher quality independent audits, represented by Big N auditors.

In contrast, concentrated family ownership may be associated more with Type II agency problems due to the entrenchment effect. Thus, families who own large stakes of firms may be incentivised to expropriate wealth from other shareholders (Shleifer & Vishny, 1997). With a large ownership percentage, families can nominate members to hold important positions on both the board of directors and management team. This enables controlling families to impose lower quality corporate governance structures, leading to a greater chance of opportunistic behaviour. This leads to hiring low-quality auditors to issue low-quality and less transparent financial reporting in order to hide the controlling family's opportunistic behaviour (Gomez-Mejia, Nunez-Nickel & Gutierrez, 2001). Ho and Kang (2013) conclude that family firms are less likely to hire higher quality auditors, and family firms with family members as CEOs are particularly reluctant to hire Big N auditors. They argue that, due to the greater incidence of Type II agency conflicts, family businesses are likely to be more willing to increase the imprecision of financial reporting and less likely to hire a higher quality auditor (Ho & Kang, 2013).

However, Francis et al.'s (2009) results support the notion that family businesses have a weak incentive to employ a higher quality audit as an external monitoring mechanism because of the lower information asymmetry between firms' owners and

management. Niskanen, Karjalainen and Niskanen (2010) question the role of auditing in private family businesses. Their results indicate that, as family ownership increases, the likelihood of hiring a Big N auditor decreases. They argue that higher audit quality is used to mitigate agency problems induced by information asymmetry, and that private family firms have no agency problems; thus, there is no need for more monitoring mechanisms, such as high-quality external audits. It is worth mentioning that private firms face only Type I agency problems, unlike public firms. In the Jordanian market (a market similar to the Kuwaiti market), Zureigat (2011) investigates the effect of ownership structure on audit quality. He studies the effect of family ownership on the quality of the audit function. His results indicate that family business is negatively associated with audit quality, as indicated by Big N auditors.

In summary, agency theory provides competing arguments on the relationship between firms' family ownership and audit quality. The limited empirical evidence regarding these issues is mixed. Therefore, raising this question in a developing market, such as Kuwait, will contribute to the literature about how family ownership influences monitoring mechanisms, such as auditing. Like most MENA countries, wealthy families in Kuwaiti play an important role in initiating and directing private and public firms (OECD, 2005). Of the 177 listed firms in Kuwait in 2008, 32.8% have boards containing two directors from the same family, with the top 15 families controlling 25% of the total board seats in Kuwait. The dominant families also hold the largest shares in the banking (27.10%) and manufacturing (16.07%) industries (Al Mutairi, 2011).

In listed Kuwaiti firms, controlling families have the power to nominate and assign executives and directors with family ties; thus, management incentives are aligned with the controlling family's incentives. This is consistent with the argument that, in less developed markets, when ownership increases, controlling shareholders have greater incentives to monitor the firm because the payoffs are higher (Shleifer & Vishny, 1997). In contrast, through their role in the Kuwaiti parliament, controlling families in Kuwait have influence over governmental expenditure decisions and the regulation-setting process. These families have powerful incentives and the capacity to lobby government agencies and public officials for preferential treatment (Alanezi, 2006). This enables controlling families to pursue private benefits to the disadvantage of other shareholders (La Porta et al., 1999). Thus, firms with increased family ownership are interested less in disclosing information to minority shareholders and being

monitored by external governance mechanisms, such as external auditors. Given the competing theoretical arguments and the alternative predictions of empirical research, a non-directional hypothesis is developed as follows:

H_3: There is a relationship between the level of family ownership and joint audit quality.

2.5.4 ROYAL FAMILY OWNERSHIP

Royal family ownership represents a special class of family ownership that is characterised by political power and access to information. The theoretical arguments concerning family ownership were discussed in the previous section. Due to their status, royal family members have greater access to insider information of investee firms, and hold much influence over the decision-making process (Hussain, Islam, Gunnasekaran & Maskooki, 2002). This indicates that firms with royal family ownership face more Type II and less Type I agency problems. Hence, royal family ownership creates agency problems for minority shareholders. Royal family owners have access to the private information of the investee firms; thus, they can expropriate minority shareholders' benefits and use low-quality financial reports to hide their behaviour (Alghamdi, 2012). Thus, it is expected that royal family ownership causes potential influential pressure regarding the choice of audit firms. This relationship is represented in Figure 2-6.

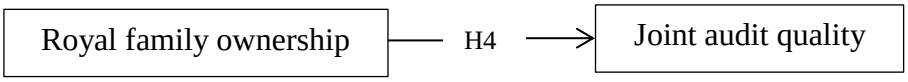

Figure 2-6 Royal Family Ownership and Joint Audit Quality

Hussain et al. (2002) report an incident that occurred in the late 1980s to illustrate the potential influence of royal family members on the decision-making process in investee firms. One of the main banks in the Kingdom of Saudi Arabia, which was dominated by a powerful member of the royal family, suffered asset quality problems that raised questions about the bank's solvency. The bank ceased issuing its annual reports, which violated the Saudi Arabian Monetary Agency (SAMA) regulations; however, the SAMA could not take any action against the bank because of the royal family member on the board. In 1993, the bank reissued its annual report and complied with the law and SAMA regulations, but was only able to do so once the royal family

member had resigned from the board of directors (Hussain et al., 2002). There are many similarities between the royal families in Kuwait and Saudi Arabia.

Due to their political connections, royal family members are expected to combine their political and business objectives in their investment decisions, and use their political power to influence the operation and performance of the firms in which they invest. In this situation, royal family ownership can produce a competitive advantage for investee firms or result in the diversion of firms' resources to achieve greater political advantage. Morck, Strangeland and Yeung (1998) argue that, when billionaire heirs' wealth is large relative to the gross domestic product, countries grow more slowly, show signs of more political rent-seeking and spend less on innovation than do other countries at similar levels of development. They explain their results by stating that corporations controlled by heirs are inefficient because of entrenched corporate control, high barriers against outside investments and low investment in innovation. Morck et al.'s (1998) results are applicable to the Kuwaiti royal family because they inherit wealth that provides them with the financial power to achieve political objectives. In line with this argument, Alghamdi (2012) finds a positive relationship between earnings management and the presence of royal family members on firms' boards. This indicates that protecting minority shareholders and creating wealth is not a priority to the controlling royal family.

Although the family business literature addresses the effect of family ownership on the quality of financial reporting, no research addresses the effect of royal family ownership on chosen joint audit quality. Therefore, this thesis contributes to the audit and family business literature by examining the relationship between ownership by a special class of family and audit quality. The royal family in Kuwait holds 45 board seats, which is 4.1% of the total board seats of the 177 listed companies (Halawi & Davidson, 2008). To demonstrate the power and influence of the royal family, Halawi and Davidson (2008) calculate the market capitalisation for each board seat. The Kuwaiti royal family controls around 4.6% of the total market capitalisation, representing the second-highest family weighted by market capitalisation. Considering the power, influence and access to information of members of the royal family, it can be argued that firms with royal family ownership are associated with less joint audit quality. This leads to the following hypotheses:

H_4: Companies with greater royal family ownership are less likely to employ higher quality joint audits.

2.5.5 ISLAMIC BUSINESS PRINCIPLES

A significant proportion of Kuwaiti firms adopt Islamic business principles as a core element of their articles of association. Adopting an Islamic value system has implications for the objectives, governance and operation of firms. Therefore, it is expected that adopting Islamic business principles affects the quality of the chosen joint audit. This relationship is depicted in Figure 2-7.

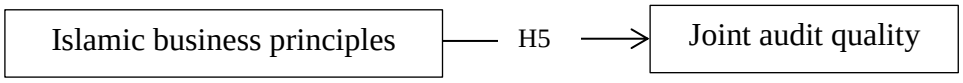

Figure 2-7 Islamic Business Principles and Joint Audit Quality

The Islamic perspective on corporate governance is different to other conventional perspectives of corporate governance, such as the Anglo-American model and Germanic model, and this difference stems from differences in the firms' philosophical objective. The Anglo-American model emphasises the principal–agent relationship and shareholders' wealth maximisation, while the Germanic model emphasises the relationship between firms and stockholders, such as banks and insurance companies (Kasri, 2009). In Islam, a firm's objective reflects the unified purpose of everyone serving God (Allah). Allah states in the holy book (Al-Quran):

> Those who remember Allah (always, and in prayers) standing, sitting, and lying down on their sides, and think deeply about the creation of the heavens and the earth, (saying): 'Our Lord! You have not created (all) this without purpose, glory to You! (Exalted be You above all that they associate with You as partners). Give us salvation from the torment of the Fire'. (Al-Quran 3: 191)

This verse declares that everything created by Allah has a purpose and that Allah created humankind to be His vicegerent on Earth. Followers of Islam believe that Allah monitors and knows every action of humans, and that every person is answerable to

Allah in the afterlife (Hasan, 2009). Since Muslims believe that they are accountable to Allah, their actions and behaviour should be conducted according to Islamic rules (sharia). Thus, the corporate governance model in firms adopting Islamic principles is based on the Islamic value system of the managing firms.

In business practice, individuals' beliefs and values are drivers of firms' culture and ethics practice. Several researchers of management indicate the importance of individuals' value systems in directing their attitudes and behaviour in the business setting (England, 1967; Hegarty & Sims, 1978). Conner and Becker (1975) propose that individual values are integral to the development of individual attitudes that lead to decision-making behaviour. Although several factors affect firms' decision-making processes—such as organisational climate, superiors and subordinates—personal values are considered vital in shaping the ethical dimension of the decision-making process (Fritzsche & Oz, 2007).

The idea that religion is an important driver of economic development dates back over 100 years. In 1905, Weber (1905) observed that countries with a greater adherence to Protestant theology enjoyed higher levels of business and capitalistic economic growth. Moreover, he argued that people's motivations and attitudes towards participating in economic activities are driven by religious ideas. Weber's (1905) findings can be explained using the social norm theory, which hypothesises that individuals' behaviour conforms with the behavioural norms of the groups with which they associate (Detel, 2008). Applying social norm theory, Dyreng, Mayew and Williams (2010) find that firms located in areas of high religious adherence are associated with higher FRQ and have better mapping of accruals into cash flows. They argue that the religious norm of honesty explains their results. Islam protects its followers' right to engage in business to profit and own private property in the shadow of sharia laws and regulations. In terms of the role of Islamic values on firm managers' ethical behaviour, Islam emphasises justice, fairness and honesty in all aspects of life, including business practice (Abu-Tapanjeh, 2009). Beekun (1996) argues that Islamic business ethics are influenced by individual ethics and beliefs that are shaped by family, peer influences and life experiences.

The requirement to comply with Islamic rules (sharia) at the corporate level creates unique agency problems (Safieddine, 2009). The Islamic view of firms' responsibilities extends beyond the principal–agent relationship to include different

parties in direct or indirect relationships with the firm. Kasri (2009) argues that the Islamic perspective of corporate governance leans towards the stakeholder model, with more expansion regarding who qualifies as a stakeholder. Iqbal and Molyneux (2005) define a stakeholder in Islam as one whose property rights are at stake or at risk due to the voluntary or involuntary actions of the firm. Moreover, they argue that, from the Islamic perceptive, any group or individuals who have explicit or implicit contractual obligations qualify as stakeholders. Islam does not limit protection to human rights only, but extends protection to all forms of life, including the environment. This broad concept of stakeholders is reflected in Iqbal and Mirakhor's (2004) definition of a 'firm' in the Islamic economic system as a:

> Nexus of contracts whose objective are to minimize transaction cost to maximize profits and returns to investors subject to constraints that these objectives do not violate property rights of any party whether it interacts with the firm directly or indirectly. (p. 48)

The theory of the stakeholder model of corporate governance is based on two concepts of Islamic laws: the principles of property rights and commitment to explicit and implicit contractual agreements. For further discussion of the principles of property and the explicit and implicit contractual agreement in Islam, see Appendix C.

After four decades of Islamic business practice and research, a great deal is known about Islamic banking issues and financial practices. The establishment of Islamic financial institutions began in the mid-1970s with the aim of creating new investment channels where Muslims could place their money. Islamic rules prohibited Islam followers from engaging in lending and borrowing practices that involve interest (*Riba*) (Rammal & Zurbruegg, 2007). Thus, Islamic institutions were introduced as an alternative to conventional financial institutions, and used financing tools permissible under Islamic law (O'Sullivan, 2009; Rammal & Parker, 2010). Islamic financial institutions have expanded to more than 50 countries, with active operations in non-Muslim countries. In 2011, Islamic financial institutions controlled US$321 billion in assets, with an annual growth rate of between 15 to 20% per annum (Ernst & Young, 2011; Smolo & Mirakhor, 2010).

While these institutions were initially developed to fulfil the financial and investment needs of Muslims, Islamic banking has now gained universal acceptance. The Islamic finance industry is gaining increasing recognition from governments and

companies in Western countries as an important source of liquidity for cash. In 2004, the German state of Saxony-Anhalt started a debt program by issuing Islamic bonds (*Sukuk*) of 100 million euros (US$125.9 million). In 2006, the East Cameron Gas Company issued the first Islamic bond in the US of US$165.7 million (Abdel-Khaleq & Richardson, 2007). In the UK, the Financial Services Authority has introduced regulatory standards for Islamic financial products and has a separate department to manage Islamic financial institutions (O'Sullivan, 2009). Thus, it can be argued that Islamic financial principles are established and recognised in the financial market. Moreover, based on the results of the recent global financial crises, some research papers have discussed the idea that Islamic-based financing can be considered a substitution for the conventional finance system (Hassan & Kayed, 2009; Smolo & Mirakhor, 2010).

In theory, the Islamic business culture, which emphasises ethics; moral behaviour; and practices such as fairness, truthfulness, honesty and justice, is expected to motivate firms' management and directors to work in favour of stockholders. A belief in the afterlife incentivises firms' decision makers to not expropriate others' wealth and to provide more reliable transparent financial information. Thus, adopting Islamic business principles alone can be an effective governance structure to protect shareholders' interest, reduce information asymmetry and improve FRQ. However, in reality, most Islamic countries show higher levels of corruption and unethical business behaviour than do Western developed countries (Transparency International, 2010). The daily practices of Muslims have shifted from the ideal practices provided in the religious guidance of Islam. The dominant ideology in Muslim countries is a mix of Islam, secularism, feudalism, capitalism and socialism, and the pure Islamic economic and social system does not exist in any part of the Muslim world (Chapra & Chapra, 1992).

Since most Islamic countries were colonised by Western countries, the social environment and business practices are characterised by Western ideology (Abu-Tapanjeh, 2009). Therefore, the current governance practice in firms that have adopted Islamic principles is a combination of conventional corporate governance mechanisms and Islamic-related governance mechanisms, such as using dual supervisory boards that include an SSB (Kasri, 2009; Safieddine, 2009). Using SSBs was a response to the absence of a single Islamic authority to guide and supervise Islamic firms' management to abide by Islamic rules and regulations (Khan, 2007). The rapid growth of Islamic

businesses in the 1970s led to an increase in the number and activity of SSBs in advising and guiding these businesses. To be more effective, SSB members strive to merge their Islamic knowledge with business and financial principles and standards (Farook & Farook, 2011). Therefore, it is expected that firms with active SSBs will be associated with greater compliance with Islamic regulations, leading to more transparency and less information asymmetry.

An SSB is a control body that consists of a number of religious advisers whose purpose is to ensure that firms adopt Islamic business principles and operate according to Islamic rules. In addition, SSBs provide guidance and clarification to management if they have questions regarding their financial operations and compatibility with Islamic rules (Grais & Pellegrini, 2006a; Rammal & Parker, 2010). To strengthen their independence, SSB members are appointed by and report to shareholders with full authority to access all necessary financial information (Abdel Karim, 1990). An SSB's objectives can be summarised as five main functions: certifying permissible financial instruments through Fatwas (ex-ante sharia audits), verifying that transactions comply with issued Fatwas (ex-post sharia audits), calculating and paying Zakat (yearly mandatory donations), disposing of non-sharia-compliant earnings, and advising on the distribution of income or expenses among shareholders and investment account holders (Abdel Karim, 1990; Grais & Pellegrini, 2006a). At the end of each financial year, the SSB issues a report to certify that all financial transactions comply with Islamic rules and regulations. Islamic firms publish the SSB's report with the external auditor's report as part of the annual report. The SSB's report aims to give credibility to the reported financial information from a religious perspective (Abdel Karim, 1990). Although the SSB has the knowledge and experience to perform a sharia compliance audit, it also needs financial expertise to deal with financial issues. If this knowledge is lacking, the expertise of external auditors is required to fill the gap.

As part of the governance structure in Islamic companies, Chapra and Ahamd (2002) consider external audits an important mechanism to reduce agency problems between Islamic companies' management and shareholders and investors. They posit that the complexity of banking operations raises the issue of external auditing to critical importance in all financial systems, with the auditing process more demanding and challenging in Islamic financial systems (Chapra & Ahamd, 2002). Archer, Abdul-Karim and Aldeehani (1998) posit that, in order to improve governance structures and

mitigate information asymmetry between investors and management, Islamic banks must improve the transparency of financial reporting and extend the external audit process to all financial transactions, whether reported on or off the balance sheet. Safieddine (2009) posits that part of Islamic companies' external auditors' function is ensuring that the profits of Islamic companies are driven in compliance with Islamic rules and regulations; thus, the external auditors should have skills and experience in auditing Islamic companies. It is expected that only large audit firms have the capability to provide the required training and support concerning Islamic affairs to its auditors.

In Kuwait, it is not only the banks that adopt Islamic principles. Listed firms in different sectors—such as investment, real estate and insurance—have also adopted Islamic business practices, and some of those firms have established SSB boards. According to the listed Islamic companies list published by the Kuwait Finance House (KFH) (2012), 62 non-banking listed firms include SSBs in their organisation structure, and 76 listed firms are Islamic compliant. Firms with SSBs consider Islamic business principles central to their operations, and state this in their article of association. The presence of an SSB in the organisation structure ensures adherence to Islamic laws and regulations. Islamic-compliant firms are conventional firms that meet Accounting and Auditing Organisation for Islamic Financial Institutions (AAOIFI) standards to be classified as Islamic compliant. This classification enables investors to invest in Islamic firms. Islamic-compliant firms usually do not have SSBs in their organisational structure and do not mention their statutes as Islamic compliant in their article of association. Their statute undergoes yearly review to ensure its continued compliance with AAOIFI standards.

The credibility of firms with SSBs and Islamic compliance and their ability to attract investors is very sensitive to the agency problems they encounter (Chapra & Ahamd, 2002). Grais and Pellegrini (2006b) argue that the failures of several Islamic financial institutions is because of governance problems, including auditing failures, a lack of consideration for minority shareholders' interests and engaging in high-risk projects. It is expected that firms with SSBs and Islamic compliance in Kuwait will benefit from the joint audit requirement by hiring higher quality audit firms to promote greater transparency, reduce information asymmetry and signal to the market the quality of reported financial information. The above discussion leads to the following hypothesis:

H_{5a}: Companies adopting Islamic business principles (SSB and Islamic compliance) are more likely to employ higher quality joint audits.

Firms with SSBs are expected to require a higher quality audit function than are Islamic-compliant firms for two reasons. First, unlike the Islamic-compliant external audit function, which requires auditors to ensure that financial information is prepared in accordance with GAAP, auditors of SSB firms are required to ensure that financial information also complies with the religious opinions, rulings and guidelines issued by the SSB (AAOIFI, 2002). Second, SSB members are religious advisers with more religious and less financial expertise (Grais & Pellegrini, 2006a). Thus, they benefit from external auditors' expertise to understand the structure of financial transactions so they can judge whether the transactions comply with Islamic regulations, and recommend the required changes for non-Islamic-compliant transactions. In summary, firms with SSBs are expected to employ higher quality audit firms than are Islamic-compliant firms. This leads to the following hypothesis:

H_{5b}: Among companies adopting Islamic business principles, firms with an SSB are more likely to employ a higher quality joint audit.

In summary, the preceding sections of this chapter have discussed and developed hypotheses to examine the first question of this thesis, which explores the relationship between the voluntary corporate governance structures adopted by Kuwaiti listed firms and joint audit quality. Ownership structure and adopting Islamic business principles are key distinguishing governance mechanisms in Kuwait. The ownership structure includes institutional investors, government, family and royal family ownership. Moreover, this chapter has posited that adopting Islamic business principles might affect audit quality. The remainder of this chapter discusses the theoretical foundation of the second question of this thesis, which considers the effect of variation in joint audit quality on the quality of the reported financial information.

2.6 JOINT AUDIT QUALITY AND FRQ

The FRQ drivers model (depicted in Figure 2-1) focuses on the effect of the quality of auditing on the quality of financial reporting. This section outlines the research related to this relationship. Figure 2-8 illustrates Hypothesis 6, which posits that, when there is a joint audit requirement, hiring higher quality audit firms is positively associated with less earnings management and restatements.

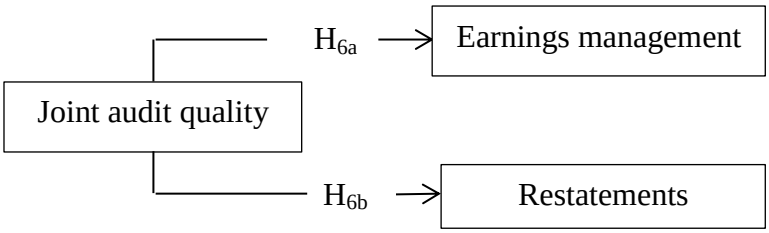

Figure 2-8 Joint Audit Quality and FRQ

From an agency theory perspective, an external audit is a monitoring mechanism that provides reasonable assurance that reported financial information is credible and reliable, thus protecting the interests of stockholders (Jensen & Meckling, 1976). Reported financial information is prepared by the management of a company; however, the management's interest may not be aligned with the stakeholders' interest. To align these interests, performance-based compensation contracts are used. These types of contracts mean that managers have an incentive to manage reported earnings and issue low-quality financial information because doing so will increase their personal wealth (Burns & Kedia, 2006). To avoid this problem and improve the quality of financial reporting, shareholders and board directors should demand the hiring of higher quality audit firms (Cohen et al., 2004). Empirical research provides evidence that the greater the agency conflicts between owners and management, the greater the agency cost and the greater the demand for differentiated audit quality (Broye & Weill, 2008; Fan & Wong, 2005; Francis et al., 2009; Francis, Maydew & Sparks, 1999).

Several studies investigate the relationship between the level of audit quality and FRQ, and conclude that audit quality plays a vital role in increasing FRQ (Becker et al., 1998; Chen, Lin & Zhou, 2005; Cohen et al., 2004; Francis et al., 1999; Teoh & Wong, 1993). Moreover, higher audit quality can be used as a mechanism to mitigate agency problems and reduce information asymmetry between a firm's investors and management (DeFond, 1992; Dunn & Mayhew, 2004). Therefore, the economic role of external audits is the main driver of higher quality auditing, rather than regulation (Watkins et al., 2004). This explains why 82% of companies listed on the New York Stock Exchange were using external audit functions prior to the passage of the Securities Acts of 1933 and 1934 (Benston, 1969). These findings are also supported by Chow (1982), who investigates the rationale of using an external audit function in a period when using an audit service was voluntary in the US. Chow (1982) shows that

leverage, firm size and the number of accounting-based debt covenants increase the probability that a firm will voluntarily hire external auditing. This result emphasises the role of external audits in controlling the conflict of interest among firm managers, shareholders and bondholders by improving the quality of financial reporting.

The financial reporting literature does not have a unanimous definition of FRQ, and there is a lack of consensus among researchers regarding what constitutes FRQ (Cohen et al., 2004). Pomeroy and Thornton (2008) find that inconsistencies in defining FRQ have led researchers to use different measures to capture this. Jonas and Blanchet (2000) argue that two approaches can be used to assess FRQ: user need and the shareholder/investor protection approach. In the former, FRQ is determined by examining the usefulness of financial information to users for making investment and credit decisions. In the latter, FRQ is defined in relation to providing shareholders with full and fair disclosure. The shareholder/investor protection approach is intended to provide interested parties with as much information as possible, as transparently as possible. Reported information should not be designed to obfuscate or mislead users (Jonas & Blanchet, 2000). The International Accounting Standards Board (IASB) adopts the notion of decision usefulness of accounting information and explicitly states in the Conceptual Framework for Financial Reporting that present and potential investors, lenders and other creditors are the primary users of reported financial information, and that they use information to make decisions about buying, selling and holding equity (IASB, 2010).

Rather than defining FRQ, the accounting literature indicates that researchers use different measurements related to the usefulness of reported information to capture the quality of financial reporting (Cohen et al., 2004). For some researchers, methods such as cumulative abnormal returns (Anderson, Deli & Gillan, 2003; Bryan, Liu & Tiras, 2004) and low cost of debt financing (Anderson et al., 2004) are used as proxies for high-quality financial reporting. For others, a low quality of financial reporting in GAAP is captured by using audit fees (Carcello, Hermanson, Neal & Riley, 2002), the presence of going concern reports (Carcello & Neal, 2000) and earnings management (Davidson, Goodwin-Stewart & Kent, 2005; Kent, Routledge & Stewart, 2009; Klein, 2002; Verdi, 2006). To measure violations of GAAP, the literature uses methods such as considering the presence of earning restatement, the SEC's issuance of accounting and auditing enforcement releases, and fraudulent reporting (Abbott, Parker & Peters, 2002;

Aier, Comprix, Gunlock & Lee, 2005; Arthaud-Day, Certo, Dalton & Dalton, 2006; Farber, 2005). This wide range of FRQ measurements supports the notion that FRQ can be conceptualised as a continuum ranging from high-quality financial reporting that meets the IFRS conceptual framework characteristics of useful financial information, to low-quality reporting in GAAP, to very low-quality reporting that violates GAAP (as depicted in Figure 2-9). The IFRS conceptual framework states that the ability to understand information and its relevance, reliability and comparability are the qualitative characteristics that make the information in financial reports useful to users.

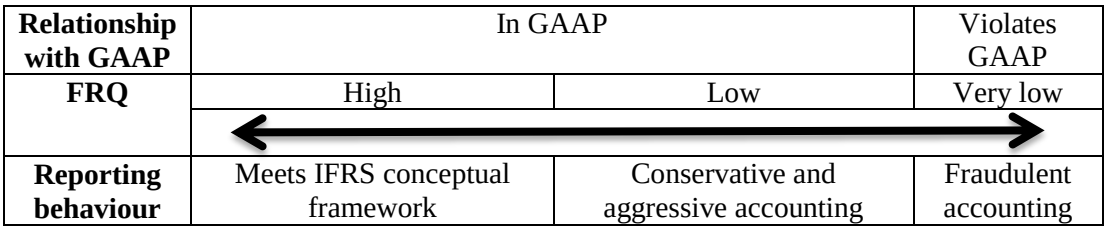

Figure 2-9 The Continuum Range of FRQ

Source: Adapted from Dechow and Skinner (2000).

While earnings management is used to assess the quality of financial reporting in GAAP, restatements of reported financial information have been used as indicators of the occurrence of fraudulent actions and violations of GAAP (Palmrose & Scholz, 2004). Examining the quality of earnings is an important step in assessing FRQ. Reported earnings provide valuable information about firms' performance that fulfils the primary aim of financial reporting of providing users with needed information (FASB, 1978). Therefore, earnings management is the most commonly used measure to capture FRQ (Dechow & Skinner, 2000; Pomeroy & Thornton, 2008; Schipper & Vincent, 2003). The higher the quality of the earnings numbers, the higher the overall quality of financial reporting.

Earnings management can be defined as the purposeful involvement by management in the financial reporting process in order to obtain some private gain

(Schipper, 1989). The definition given by Healy and Wahlen (1999) is the most complete and commonly used in the literature:

> Earning management occurs when management use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers. (p. 386)

However, this definition of earnings management has two weaknesses. First, it does not clearly distinguish between activities aimed at managing earnings and normal activities whose output is earnings. Second, it assumes that all earnings management is misleading. However, earnings management does sometimes aim to provide investors with more relevant information. For example, firms who manage earnings to separate persistent earnings from one-time shocks do not mislead investors (Ronen & Yaari, 2010). Ronen and Yaari (2010) define earnings management as follows:

> Earnings management is a collection of managerial decisions that result in not reporting the true short-term, value-maximizing earning as known to management. Earnings management can be beneficial: it signals long-term value; pernicious: it conceals short- or long-term value; [or] neutral: it reveals that short-term true performance. The managed earnings result from taking production/investment actions before earnings are realized, or making accounting choices that affect the earnings numbers and their interpretation after the true earnings are realized. (p. 27)

Ronen and Yaari (2010) emphasise the short term because earnings are reported for either a quarter or a year. Moreover, they argue that earnings should reflect the truth as it is known to management. By reporting the truth, earnings management can be beneficial by conveying value-relevant information by removing some of the 'noise' in reporting short-term earnings. This argument aligns with Subramanyam (1996), Holthausen (1990) and Healy and Palepu (1993), who state that earnings management may be beneficial if it enhances the information value of earnings and reveals private information about a firm's future forecasts to investors. Similarly, Guay, Kothari and Watts (1996) argue that firms use accruals to manage earnings, and state that discretional accruals consist of three elements: performance, opportunistic and noise accruals. Performance accruals anticipate future cash flows to indicate more reliable and

accurate signals of firms' performance than cash flows. Opportunistic accruals involve management using accruals to hide bad news and mislead current and potential investors regarding the true status of a firm's performance. Noise accruals introduce noise to reported earnings, and are not correlated to nondiscretionary earnings and stock returns.

Opportunistic earnings management occurs when managers engage in earnings manipulation behaviour in order to mislead investors, gain personal benefits or mask poor performance. A large body of literature evidences a range of incentives that explain why firms' managers engage in opportunistic earnings management. Healy and Wahlen (1999) argue that political and governmental regulations, capital market motivations and management compensation contract motivations are the main incentives that drive management to undertake earnings manipulation behaviour. For further discussion of this literature, see Appendix D.

In the Kuwaiti market, evidence of the value relevance of earnings to investors' decisions suggests that there is a strong incentive for managers to use earnings management to signal a firm's performance and profit expectations (Algharaballi, 2012). Alrashed (2002) examines the relevance of announced financial information to stock price in relation to four events: the preliminary announcement, annual report releases, annual general meetings and interim reports. His findings indicate that preliminary announcements and interim statements convey substantial amounts of new information, with average absolute excess returns of 4% on the event day. This indicates that stock prices reflect the new information revealed in the market, and investor reaction is driven by such information. Consistent with these findings, Al-Qenae, Li and Wearing (2002) investigate the relationship between stock return and reported earnings. They conclude that changes in stock prices reflect changes in reported earnings. They also document that the Kuwaiti market responds quickly to new information and anticipated earnings. They interpret their findings to mean that stock prices in Kuwait reflect investors' perceptions that current earnings provide information about the future earnings and performance of the firm.

El-Shamy and Kayed (2005) investigate the usefulness of reported earnings and book values to investors. They find that earnings and book values are positively and significantly related to stock prices, indicating that investors perceive financial information (earnings and book values) as an important base from which to value firms'

stocks. Moreover, El-Shamy and Al-Qenae (2005) examine the change in the value relevance of earnings and book values in equity valuations over a 20-year period (1980 to 2001) and find that the incremental value relevance of earnings increases over time, while that of book values declines. They also report that the value relevance and incremental explanatory power of earnings has improved since the adoption of IAS in 1990. Thus, these reviewed studies indicate higher positive associations between reported earnings, stock prices and investors' decisions. Therefore, it is expected that firms' managers use earnings management to manipulate earnings results so they can support stock prices and meet shareholder expectations.

Despite overwhelming empirical research on earnings management (Dechow, Ge & Schrand, 2010; Ronen & Yaari, 2010), only two studies address earnings management in Kuwait. The first study, by Algharaballi and Albuloushi (2008), examines and evaluates the specification and power of discretionary accruals models in Kuwait. It examines four earnings management models: the Jones, modified Jones, Jones cash flow operating and working capital models. The results of this study indicate that the four models are well specified and show almost equal power in detecting earnings management. However, they find that the Jones model shows the highest power in detecting income-increasing accruals through manipulating revenue. In the second study, Algharaballi (2012) examines whether firms that have been newly listed in the KSE exhibit lower earnings management in the listing year than in the prelisting year. Using three discretionary models, Algharaballi (2012) finds that newly listed firms have significantly higher earnings management in the prelisting financial year than in the listing year. She attributes this finding to the managers' and owners' incentives to meet the prelisting profit requirement and increase their wealth by selling stocks at as high a price as possible. The firm's managers and owners also benefit from requiring only one external auditor prior to listing, compared to the requirement to use two external auditors after listing. No other studies have addressed earnings management behaviour in Kuwait.

This lack of earnings management research in Kuwait provided motivation for the current study to examine earnings management behaviour in the Kuwaiti market and examine whether joint audit quality is used as a mechanism to mitigate this behaviour. Evidence from a developing country with a different culture and regulations will enhance awareness of differences among countries regarding FRQ. Therefore, this study

makes two important contributions to the literature. First, it provides further comprehensive evidence of earnings management behaviour in Kuwait, and, second, it examines the effect of a joint audit requirement on restraining earnings management behaviour.

The literature provides evidence that external audits play an important role in mitigating agency problems and reducing information asymmetry between a firm's agents and principals. Ronen and Yaari (2010) suggest that external auditors are gatekeepers that mitigate information asymmetry between a firm's principles and agents, and improve the quality of financial reporting by minimising earnings management behaviour. The incentives for auditors to detect material errors and to adjust or report them depends on different factors, such as litigation risk, reputation costs and auditor independence (Chaney & Philipich, 2002; Khurana & Raman, 2004). Based on a review of 48 studies, Lin and Hwang (2010) find that audit quality attributes, such as auditor tenure, size, specialisation and independence, have a negative relationship with earnings management behaviour. Dechow et al. (2010) summarise the literature on external audit quality and earnings quality and find that, with a few exceptions, the earnings quality literature suggests that firms audited by Big N firms have significantly higher earnings quality than do firms audited by non–Big N firms.

Most studies that find a negative relationship between audit quality, indicated by the size of the audit firm and earnings management, are from countries with a common law regime (such as Becker et al., 1998; Francis et al., 1999; Kim, Chung & Firth, 2003). Using US data, Becker et al. (1998) show that firms hiring Big N auditors report discretionary accruals that increase income relatively less than firms that hire non–Big N auditors. Moreover, they find that the mean and median of the absolute value of discretionary accruals are lower for firms with Big N auditors. Similarly, Francis et al. (1999) report that, even though clients of Big N auditors have a higher level of total accruals, they experience lower discretionary accruals. Kim et al. (2003) find that, for a sample of US firms, Big N auditors are more effective than non–Big N auditors in influencing clients to adopt more conservative accounting procedures. These findings are supported by recognising that the type of law that governs Anglo-Saxon countries plays a vital role in incentivising auditor quality. Common law countries are characterised by higher levels of investor protection than are non–common law countries (La Porta et al., 2000), and auditors are subsequently exposed to greater

litigation risk. In common law countries, investors view external auditors as insurance in the case of losses and firm failure (Menon & Williams, 1994). Therefore, the expectation is that external auditors have incentives to provide the needed effort to ensure the accuracy of the reported earnings.

The results for civil law countries are mixed. Maijor and Vanstraelen (2006) examine the effect of audit firms' quality on earnings management in three European countries with different law origins: France, Germany and the UK. In contrast to the results from the studies of common law countries, they report that, in France and Germany, Big N auditors have no significant effect on the level of abnormal working capital accruals compared to non–Big N auditors' clients. However, this is not the case with UK firms. Similarly, Piot and Janin (2007) find that Big N audit quality differentiation does not operate in France in respect to accounting earnings. Piot and Janin (2007) and Maijor and Vanstraelen (2006) attribute their results to the weaker investor protection environment and lower litigation risk to audit firms in France compared to common law countries. In common law countries, investors target wealthy auditors due to the easy lawsuit opportunities in the case of failure. However, in France, because of the low risk of litigation, large audit firms have less incentive to adopt more conservative attitudes with respect to earnings management. In contrast to these two studies, Francis et al. (2009) examine the effect of joint audits on earnings management behaviour using French data. Their results are similar to the studies of Anglo-Saxon countries. They find that French companies audited by a Big N auditor are less likely to have income-increasing abnormal accruals, and that companies with two Big N auditors are even less likely to have abnormal accruals. These results contradict earlier research, and Francis et al. (2009) argue that this difference is due to how they control for the audit pair choice. Piot and Janin (2007) compare firms with Big N auditors versus all other firms, while Francis et al. (2009) define more precisely the exact nature of a firm's auditor pair choice and then compare the auditor pair choice. The contrasting results are also attributed to the different models used to capture the abnormal accruals. Piot and Janin (2007) use the Jones (1991) model, while Francis et al. (2009) use a model derived from Defond and Park (2001). The Jones (1991) model is less effective in detecting abnormal accruals in non-US data, while the model used by Francis et al. (2009) is used in other countries, such as Germany, the UK and Australia (Carey & Simnett, 2006; Francis & Wang, 2008; Maijor & Vanstraelen, 2006).

France and Kuwait share common business environment characteristics, such as a civil law regime, legal requirement for joint audits, relatively lower litigation risk for audit firms, voluntary audit committee formation and firm ownership concentration. Given the similarity of business characteristics in Kuwait and France, although the Kuwaiti market is a less developed market, it is expected that the results of the effect of joint audit quality on earnings management in Kuwait would be similar to that shown by Francis et al. (2009). Evidence from the studies reviewed earlier indicates that a higher audit quality is negatively associated with earnings management. Thus, the higher quality joint audit function restrains earning management behaviour and improves FRQ. This leads to the following hypothesis:

H6a: Higher joint audit quality is negatively associated with earnings management.

As indicated in this hypothesis, testing the relationship between joint audit quality and earnings management aims to examine the quality of FRQ in GAAP. GAAP permits flexible earnings reporting to allow managers to communicate their private, inside information (Krishnain, 2003). Testing violations of GAAP provides strong evidence of the relationship between external audit function and FRQ. Figure 2-9 illustrates how the quality of financial reporting is a continuum range, varying from high-quality financial reporting that conforms with the IFRS conceptual framework, to very low FRQ that violates GAAP. Different methods are used to capture the quality of financial reporting and the violation of GAAP. These measures include the presence of earnings restatements, SEC issuance of accounting and auditing enforcement releases, and fraudulent reporting (Abbott et al., 2002; Aier et al., 2005; Arthaud-Day et al., 2006; Farber, 2005).

Financial reporting restatements reflect management's acknowledgement that the original reported financial statements were not in accordance with GAAP (Palmrose & Scholz, 2004). This implies that the external auditor did not practise the required level of quality to ensure compliance with GAAP (Francis et al., 2013a; Francis & Michas, 2013). The most frequent reasons for US firms' restatements are revenue recognitions issues, operating expenses or sales costs that are improperly capitalised or classified, and restructuring assets or inventory (GAO, 2002). Restatements can be caused by intentional misstatements or unintentional mistakes by a firm's management (Hennes, Leone & Miller, 2008). The opportunistic behaviour of firms' managers is the main

cause of intentional misstatements that lead to accounting restatements. The major factors that drive financial restatements are executive stock ownership (Erickson, Hanlon & Maydew, 2006), the desire to meet debt covenants (Richardson, Tuna & Wu, 2002), the weakness of corporate governance (Agrawal & Chadha, 2005) and the lack of strong oversight by external auditors (Stanley & DeZoort, 2007).

Theoretical and empirical research has found that higher audit quality is positively associated with the quality of financial reporting, and negatively associated with reporting mistakes and fraud (Becker et al., 1998; Chen et al., 2005; Cohen et al., 2004; Francis et al., 1999; Francis et al., 2013a; Teoh & Wong, 1993). Therefore, a higher quality audit function is expected to be negatively associated with financial reporting restatements. Issued financial statements are the product of management. External auditors review financial statements to ensure they are free of material misstatements and presented in accordance with GAAP. When auditors issue an unqualified opinion, they attest that the financial statements as a whole are presented fairly in all material respects. If reported financial statements are restated later, this indicates that the auditor's work was not of an acceptable standard and their opinion was incorrect. Therefore, restatements can indicate that the quality of audit was low.

Regulators and investors view restatements as evidence of audit failure; therefore, shareholders are more likely to vote against an auditor's ratification following a restatement, or even sue external auditors. Palmrose and Scholz (2000) find that external auditors are significantly more likely to be sued over economic restatements than technical ones. This implies that, for companies with financial restatements, the external auditors' performance is not satisfactory according to generally accepted auditing standards. Liu, Raghunandan and Rama (2009) find that the shareholders of firms that restate their financial information are more likely to vote against auditor ratification. When Liu et al. (2009) control for shareholders' voting behaviour before and after restatement, they observe a pronounced increase of voting against auditor ratification after restatement. In line with Liu et al. (2009), Hennes, Leone and Miller (2010) examine the dismissals of auditors after accounting restatements. They find that auditors' dismissals after restatement are significantly higher for non–Big N auditors if the restatement involved an irregularity, rather than an error. However, for Big N auditors, there was no difference in dismissal rates across errors or regularities. This indicates that, because of their reputation, Big N auditors are held accountable for both

types of restatements. In addition, Hennes et al. (2010) find that the market responds positively to firms that change their auditors and hire a comparably sized or larger successor auditor. This supports the investor's notion that audit quality is associated with restatement, and that an auditor change might improve FRQ and reduce the chance of restatement in the future.

The phenomenon of restatement is relatively recent in Kuwait, and there is much less research on this topic in Kuwait than in other developed countries. There were 116 restatements announced by listed companies in the KSE from 2005 to 2012 (Aljoman, 2013). Considering that the number of listed firms in 2012 was 209, the number of restatements in Kuwait is relatively high and can be used as indicator of the audit quality and FRQ. Alyousef and Almutairi (2010) find that KSE investors perceive accounting restatements as bad news, and react negatively to them. They suggest that, to reduce the number of restatements in the future, the KSE should impose penalties on companies that restate prior reported financial statements, and that listed firms should hire auditors who provide higher quality audits to ensure the reliability of the reported financial information. Alyousef and Almutairi (2010) suggest that future research should include the corporate governance characteristics of firms to determine the relationship between firms' characteristics and restatements. Therefore, this thesis aims to examine the relationship between variations in the quality of audit, as driven by the joint audit requirement and the presence of financial restatements, as an indicator of FRQ. This leads to the following hypothesis:

H_{6b}: Higher joint audit quality is negatively associated with restatement.

2.7 SUMMARY

The first part of the chapter developed the FRQ model (depicted in Figure 2-1), which focuses on the relationship between ownership structure and adopting Islamic business principles as governance mechanisms, and the quality of chosen audit pairs. The second part of the chapter questions the effect of the quality of chosen audit pairs on the quality of the reported financial information.

The FRQ model suggests that, in an environment of voluntary corporate governance, different types of owners may play vital roles in choosing the level of joint audit quality. While a higher level of joint audit quality can be chosen to mitigate agency problems and provide increased protection for other minority shareholders, a

low level of joint audit quality can be chosen to increase the imprecision of reported financial information and hide the opportunistic behaviour of concentrated owners. The model further posits that firms that adopt Islamic business principles face a different set of agency problems; thus, these firms apply different mechanisms to reduce agency problems. Islamic firms are expected to use a higher level of joint audit quality to ensure reduced information asymmetry among stakeholders. Finally, the FRQ model posits a positive relationship between the chosen joint audit quality and the FRQ that is operationalised through the level of earnings management and presence of restatements. This chapter concludes by formulating six testable hypotheses, as summarised in Table 2-1.

Table 2-1 Summary of Hypotheses

	Hypotheses
H1a	Companies with greater institutional investor ownership are more likely to employ a higher quality joint audit.
H1b	Companies with greater bank and insurance company ownership are less likely to employ a higher quality joint audit.
H1c	Companies with greater mutual fund and foreign investor ownership are more likely to employ a higher quality joint audit.
H2	Companies with greater government ownership are less likely to employ a higher quality joint audit.
H3	There is a relationship between the level of family ownership and joint audit quality.
H4	Companies with greater royal family ownership are less likely to employ a higher quality joint audit.
H5a	Companies adopting Islamic business principles (SSB and Islamic compliance) are more likely to employ higher quality joint audit.
H5b	Among companies adopting Islamic business principles, firms with an SSB are more likely to employ a higher quality joint audit.
H6a	Higher joint audit quality is negatively associated with earnings management.
H6b	Higher joint audit quality is negatively associated with restatement.

The first hypothesis posits a positive association between institutional investor ownership and joint audit quality. Additionally, the hypothesis predicts a variation in the effect of institutional investor ownership on joint audit quality, based on the nature of the institutional investor. The second hypothesis states that greater government ownership is negatively associated with joint audit quality. The third hypothesis proposes that there is a relationship between the level of family ownership and the quality of the joint audit. The fourth hypothesis states that greater royal family ownership is negatively associated with the quality of the joint audit. The fifth hypothesis focuses on the relationship between adopting Islamic business principles and

the quality of the joint audit. Further, the fifth hypothesis states that, among Islamic firms, firms with an SSB are associated with a higher level of joint audit quality. The final hypothesis focuses on the relationship between the level of joint audit quality and earnings management. Moreover, this hypothesis posits that firms with a higher joint audit quality are negatively associated with restatement. The following chapter presents the empirical methods used to formally test the hypotheses developed in Chapter 2.

Chapter 3: Research Design

3.1 INTRODUCTION

Chapter 3 describes the archival research design of the thesis, including the data, variables and empirical methods employed to test the FRQ drivers model and the hypotheses developed in the previous chapter. The remainder of the chapter is divided into five sections. Section 3.2 outlines the research design. Section 3.3 discusses the research sample and data collection procedures. Section 3.4 provides operational definitions for the constructs that were developed in Chapter 2. Section 3.5 discusses measurement of joint audit quality, while Section 3.6 discusses measurement of the FRQ construct. Section 3.7 discusses the control variables used, Section 3.8 describes the analysis procedure, and Section 3.9 presents a summary of the chapter.

3.2 OVERVIEW OF RESEARCH DESIGN

This research empirically tests the theoretical FRQ drivers developed in Chapter 2 (depicted in Figure 2.1). The sample used in the research consists of all Kuwaiti listed firms with a 31 December 2012 balance date. This thesis measures corporate governance, joint audit quality and FRQ. The variables used to proxy for the FRQ drivers—corporate governance, joint audit quality and FRQ—are presented in Figure 3-1.

The first part of the model of FRQ drivers addresses Research Question 1: What is the relationship between corporate governance structure and the quality of joint audit for Kuwaiti listed companies? The independent governance variables are ownership structure and adopting Islamic principles. For ownership structure, this thesis focuses on the four main types of owners in the Kuwaiti market: institutional investors, governmental agencies, families and royal families. The ownership of institutional investors and government agencies is measured by the percentage of shareholding over the total outstanding shares of the firm. Family and royal family ownership is measured by determining the family's ownership and control by following Claessens, Djankov and Hang (2000). A firm's adoption of Islamic principles is measured with a

dichotomous variable with the value of one if the firm is in the KFH list of Islamic firms, and zero otherwise.

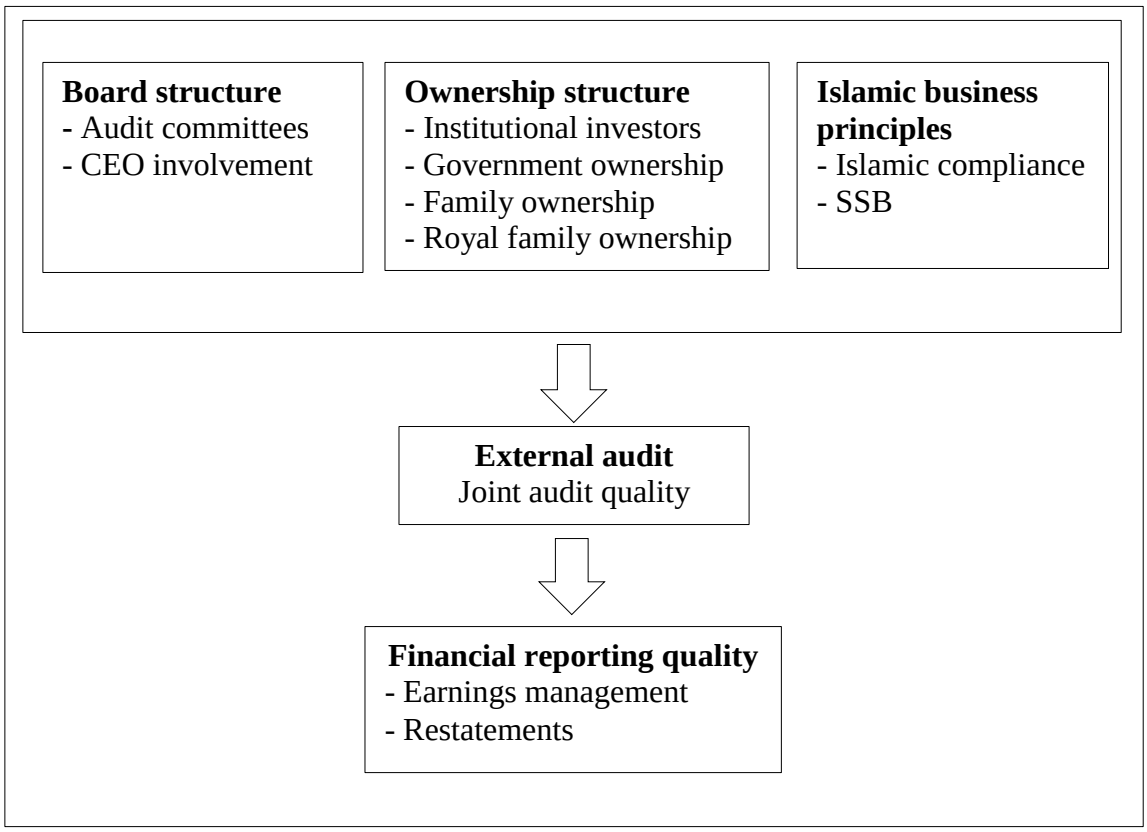

Figure 3-1 Measures of FRQ Drivers

The second part of the FRQ drivers model addresses Research Question 2: What is the effect of the chosen quality of joint audit on the quality of financial reporting? The dependent variable is FRQ, which is measured by examining the quality of earnings and existence of financial reporting restatements. Joint audit quality is an intervening variable that is measured by identifying the differences in the composition of each joint audit. This research also controls for the company's size, audit committee, profitability, complexity and industry.

3.3 SAMPLE AND DATA COLLECTION PROCEDURES

The sample consists of public companies listed on the KSE with a 31 December 2012 balance date. The study is limited to one year of data because corporate governance mechanisms, including ownership structures, rarely change over time (Black, Jang & Kim 2006; Zhou, 2001). Moreover, firms that adopt Islamic business

principles and use SSBs specify their adoption of Islamic principles in their articles of association and cannot change later to adopt non-Islamic business principles. Additionally, because of the cost of rotation, firms tend to keep their external auditors for long periods and, in Kuwait, there is no requirement for mandatory audit rotation. The sample is chosen from 2012 because these are the most recent data available. The original sample frame includes 209 listed firms, categorised into seven sectors according to the KSE's official classification. Due to the focus on the composition of audit pairs, banks are excluded from the sample because banks in Kuwait must be audited by Big N audit firms. The financial data used in this research were hand-collected from listed firms' annual reports, while ownership data were collected from the Aljoman Centre for Economic Consultancy database. Table 3-1 provides a summary of the details of the sample.

Table 3-1 Summary of Sample Details

Industry	No. of companies	% of sample
Banks	9	4
Investment	53	25
Real estate	43	21
Industrial	29	14
Food	7	3
Services	61	29
Insurance	7	3
Original sample frame	**209**	**100**
Less banks	9	
Final sample frame	**200**	

3.4 CORPORATE GOVERNANCE OPERATIONALISATION

This section discusses the operationalisation of the constructs that are used to represent the concepts developed in Chapter 2. The corporate governance construct is composed of four types of ownership and the adoption of Islamic business principles that represent independent variables in this study. This section describes the measurements used to capture those variables before outlining the definition and measurement of the intervening variable joint audit quality. Next, this section reviews the measurements of the dependent variable of FRQ, as well as the alternative measurements and variables used in the study. Finally, the control variables (firm size, audit committee, CEO involvement, complexity, profitability, leverage and industry) are

discussed, and the measurements outlined. The following subsections discuss each of the four types of investors in detail.

3.4.1 INSTITUTIONAL OWNERSHIP

There is no single unanimous definition of institutional investors in the accounting literature. The literature follows two streams of research, each of which treats institutional investors differently. One stream defines institutional investors as a homogenous group that shares the same incentives and objectives, while the other considers institutional investors non-homogenous investors with different incentives and effects on firms' performance, audit quality and FRQ (see Appendix B). This research evaluates both perspectives in examining the effect of institutional investors on the quality of chosen audit pairs. In the first stage of analysis, the research treats institutional investors as a homogenous group, while, in the second stage, this research treats institutional investors as non-homogenous.

Institutional investors in Kuwait are composed of four main types: banks, insurance companies, mutual funds and foreign investors. Table 3-2 shows the number of sample firms with institutional investor ownership. To determine which type of institutional investor each firm has, the ownership disclosed information is searched to find the names of owners that possess 5% or more of the total equity. Each major owner is then classified as an institutional or non-institutional investor. Institutional investors are examined to determine whether they are local or foreign institutional investors. Since there are only nine local banks, seven insurance companies and a limited number of mutual funds in Kuwait, using the name of the institution was the most efficient way to categorise institutional investors.

Table 3-2 Number of Listed Firms with Institutional Ownership

Institutional investors	No. of listed firms	% of total sample firms (N = 200)
Banks	27	14
Insurance	7	4
Mutual funds	25	13
Foreign	25	13
Total	**84**	**42**

The percentage of institutional investor ownership is the most common measurement used to capture the influence of institutional investors on the decision to employ external audits (Abdul Wahab, How & Verhoeven, 2007; Kane & Velury, 2004;

Ruiz-Mallorquí & Santana-Martín, 2011; Velury et al., 2003). The variable $Instit\_own_i$ is used to capture aggregate institutional investor ownership and is computed as follows:

$$Instit\_own_i = \frac{Shares\ owned\ by\ institutions}{Total\ shares\ outstanding}$$

(3.1a)

The first stage of analysis tests Hypothesis 1a, which states that there is a positive association between the existence of institutional investors and the quality of the composition of audit pairs. This aggregate measure implicitly assumes that there is no differential effect among all institutional investors on the chosen audit composition. An alternative measure of institutional ownership is to follow the model outlined by Francis et al. (2009) and focus on the largest shareholder. To test the effect of institutional investors being the largest shareholder in a company on the decision of the audit pair composition, the variable $Instit\_maj_i$ is used:

Instit_maj$_i$ = 1 *if the largest ownership group is institutions, and* 0 *otherwise*

(3.1b)

This alternative measure is used only for the sensitivity analysis. The $Instit\_maj_i$ variable tests whether the results are sensitive to institutional investor measurement. Listed firms are recorded as dichotomous by allocating a value of one if institutional investors are the biggest owners of the firm, and zero otherwise. The rationale for using this variable is that larger shareholders can impose more control over a firm's affairs. The control mechanism of listed firms in Middle Eastern countries is different to that used in developed countries such as the US and UK. In these regions, the common practice of having independent directors on the board of directors plays a vital role in mitigating the influence of large blockholders (Chung & Chan, 2012). In contrast, the board of directors of listed firms in Middle Eastern companies usually represents the larger owners of the firm (Mujtabo, 2011). Members of boards of directors in Kuwait are elected by shareholders according to their percentage of ownership. The expectation is that, as the largest owners of the firm, institutional investors are going to provide a higher level of controlling and monitoring of the decision-making process, including employing higher quality audit firms.

The first part of the analysis uses measures of institutional investor ownership that are consistent with the research stream that assumes institutional investors are a

homogeneous group of investors who have a similar effect on the quality of the audit. The second stream of literature views institutional investors as a non-homogeneous group of investors with different incentives and motivation to monitor the firms in which they invest. Consistent with this view, in the second stage of analysis, this research tests Hypotheses 1b and 1c. Hypothesis 1b states that companies with greater bank and insurance company ownership are less likely to employ a higher quality joint audit while Hypothesis 1c posit that companies with greater mutual fund and foreign investor ownership are more likely to employ a higher quality joint audit. Thus, in this stage of analysis, two subgroups of institutional investors are considered.

To test whether there are differences among institutional investors regarding the quality of audit pair make-up, as suggested by Hypotheses 1b and 1c, this thesis distinguishes between banks and insurance companies as one type of homogenous group, and mutual funds and foreign investors as a different type of homogenous group. This grouping is based on the findings in the literature that, among institutional investors, foreign investors and independent institutional investors drive better governances (Aggarwal et al., 2011), require higher audit quality (Zureigat, 2011), enhance operating performance (Ferreira & Matos, 2008) and improve firms' value (Ruiz-Mallorquí & Santana-Martín, 2011). Moreover, foreign investors and mutual funds are considered 'pressure-resistant' institutional investors, while banks and insurance companies are considered 'pressure-sensitive' institutional investors (Johnson, Schnatterly, Johnson & Chiu, 2010). Institutional investors are considered pressure sensitive when investors have a close business relationship with the firms in which they are invested, and investor objectives may be affected by such business ties to management (David, Kochhar & Levitas, 1988). This situation creates a potential conflict of interest and may lead investors to tend towards the interest of firms' managers. In contrast, pressure-resistant investors do not commonly have direct business relationships with the firms in which they invest, and subsequently have less conflicts of interest and encounter less managerial influence (Johnson et al., 2010).

Therefore, for the purposes of this thesis, two variables are used to capture the notion of institutional investors' activeness regarding joint audit quality: $Passive\_instit_i$ and $Active\_instit_i$. Following the methodology from the literature, the ownership of each listed firm's institutional investor is measured as the percentage of shareholding over the total outstanding shares of the firm. Firms in the dataset with

institutional investor ownership are then divided into two groups: firms with bank and insurance company ownership, represented by $Passive\_instit_i$, and firms with foreign and mutual funds ownership, represented by $Active\_instit_i$:

$$Passive\_instit_i = \sum_i percentage\ of\ banks\ and\ insurance\ company\ ownership \quad (3.1c)$$

$$Active\_instit_i = \sum_i percentage\ of\ foreign\ investors\ and\ mutual\ funds \quad (3.1d)$$

Table 3-3 Numberof Listed Firms in Institutional Investors' Groups

Groups of institutional investors	No. of listed firms	% of total sample firms (N = 200)
Passive_instit$_i$	35	18
Active_instit$_i$	49	25

3.4.2 GOVERNMENT OWNERSHIP

The second type of ownership concentration is government ownership. The Kuwaiti government uses five government agencies to invest in listed firms: the Kuwait Awqaf Public Foundation (commonly referred to as AWQAF), Public Institution for Social Security (PIFSS), Public Authority for Minors Affairs (PAMA), Kuwait Investment Authority (KIA) and Kuwait Petroleum Corporation (KPC). Table 3-4 summarises the Kuwaiti governmental agencies' ownership of listed firms.

Table 34- mber of Listed Firms with Government OwnerhsipNu

Government agency	Management purpose	Firms with government ownership	% of total sample firms (N = 200)
AWQAF	Muslim endowments	4	2
PIFSS	Superannuation	17	9
PAMA	Orphans affairs	4	2
KIA	Sovereign wealth	16	8
KPC	All oil affairs	3	2
Total		**44**	**22**

AWQAF was established in 1994 with the main objective of managing and investing the endowments of Muslims in Kuwait. This kind of government agency is popular in Islamic countries because Muslims are encouraged to leave some assets after

death to be managed and raised to provide returns that are used according to the will of the deceased person. These returns are usually spent on charitable activities. Due to the nature of work, AWQAF (2013) only invests in firms operating according to Islamic rules.

PIFSS was established in 1976 to collect and invest the superannuation of Kuwaiti employees. All Kuwaiti government employees are obligated to participate in PIFSS so they can receive a monthly salary after retirement. PIFSS (2009) invests collected funds in listed firms both inside and outside of Kuwait.

PAMA was established in 1983 to take care of all underage Kuwaiti orphans. Those orphans are not necessarily poor; however, the government seeks to ensure all Kuwaiti orphans receive high-quality social care so they become good citizens in the future. According to *Law No. 67/1983*, PAMA has the authority to manage all affairs of underage Kuwaiti orphans until they are 21, including managing and investing their inherited wealth. Thus, PAMA (2013) invests in Kuwaiti listed firms on behalf of orphans.

KIA is the oldest sovereign wealth fund, and was established in 1953. With assets of approximately US$293 billion, KIA is considered the sixth-largest sovereign wealth fund in the world (Fuad, 2012). KIA is responsible for managing Kuwait financial assets, and mainly manages the General Reserve Fund (GRF) and the assets of the Future Generations Fund (FGF). The GRF is the repository of all oil and investment revenues. The FGF is funded by 25% of annual oil revenues and 10% of annual GRF revenues. KIA manages the FGF assets for the benefit of future generations by diversifying oil revenues into long-term financial investments. KIA (2013) invests in local, Arab and international markets.

KPC is fully owned by the government, and was founded in 1980 as a parent company to own all oil-related companies in Kuwait. KPC and related subsidiaries (government companies) own and manage all aspects of the oil industry in Kuwait, ranging from discovering new reservoirs to producing and transporting oil to customers in different parts in the world. KPC has limited ownership in Kuwaiti listed firms, and is mostly focused on listed firms that operate petrol stations (KPC, 2013).

While Kuwaiti government agencies have different purposes and objectives, they invest in the KSE with similar investment behaviour. Kuwaiti government agencies are

primarily intended to support the market and provide stability to stock prices. Alfaraih et al. (2012) argue that the Kuwaiti government lacks sufficient entrepreneurial drive and tends to be motivated politically and socially, rather than commercially. Hypothesis 2 states that there is a negative association between greater government ownership and the quality of audit pair composition. In accordance with prior literature (Alfaraih et al., 2012; Borisova, Brockman, Salas & Zagorchev, 2012; Chan et al., 2007; Francis et al., 2009; Guedhami et al., 2009), the current research measures government ownership (Gov_own_i) as the percentage of shares held by government agencies over the total outstanding shares of the firm:

$$Govt\_own_i = \frac{Shares\ owned\ by\ government\ agencies}{Total\ outstanding\ shares} \quad (3.2a)$$

This thesis also determines whether governmental agencies are major investors, and uses the variable Gov_maj_i as an alternative measurement of government ownership to test whether the results are sensitive to government ownership measurement. The alternative measurement is based on the work of Francis et al. (2009) and is used only for the sensitivity analysis. Listed firms are recorded to be dichotomous by allocating a value of one if government agencies are the biggest owners of the firms, and zero otherwise.

$Govt\_maj_i$ = 1 *if the government has the largest ownership in firm i and* 0 *otherwise* (3.2b)

3.4.3 FAMILY OWNERSHIP

The definition for family business used in the literature varies based on the features of the business environment in which the firms operate. Chua, Chrisman and Sharma (1999) argue that the definitions of family business include three combinations of ownership and management: family owned and managed; family owned, but not family managed; and family managed, but not family owned. However, the first combination is considered the most unanimous determination to classify family business (Chua et al., 1999). Therefore, there is broad agreement that family firms are those in which a family owner exercises a high level of influence over the firm's affairs (Gomez-Mejia, Cruz, Berrone & Castro, 2011). Salvato and Moores (2010) discuss the issue of family firms' operationalisation and find that the majority of family business

studies capture family nature by measuring the degree of ownership concentration. They argue that, by using ownership concentration, researchers fail to differentiate between family ownership and other types of large blockholders, such as institutional investors and governments.

Gomez-Mejia et al. (2011) posit that a wide range of proxies have been used in the literature to capture the family firm construct. These include having a single family that owns the majority of shares, an excess of 50% of voting power being held by family members, a family member being an officer or director, having 10% or more of shares owned by the family, and the presence of family members on the board with 5% of ownership (Gomez-Mejia et al., 2011). This wide range of family business proxies is driven by the specific characteristics of the contexts of studies. Therefore, Gomez-Mejia et al. (2011) conclude that every family firm's operational definition is context specific, rather than generalisable. They argue that factors that determine the proxy used to capture family business include the type of industry; presence of multiple large blockholders; incentive of investment, such as short- and long-term investors; size of firms; and presence of pyramidal ownership structures.

Kuwaiti firms' ownership is characterised as a pyramidal ownership structure, consistent with other developing countries. A pyramidal business group consists of a dominant shareholder (a family, in the case of Kuwait) who holds the major ownership stake in a group of corporations. At the same time, the corporations that belong to the dominant shareholder hold an ownership stake in a large number of firms (Morck & Yeung, 2004). Therefore, this network of firms forms a pyramidal structure, with the dominant shareholder at the top of the pyramid managing the chains of control of different layers in various firms. A pyramidal ownership structure is used in countries with poor investor protection in order to separate controlling shareholders' cash flow from their control rights (La Porta et al., 1999). This research follows Claessens et al. (2000) in defining family ownership and control, with family ownership defined as the cash flow rights and family control defined as the voting rights held by the family in the firms. A family's control rights (voting rights) are important because they determine their ability to control firms' affairs, such as dividend policies; investment decisions; and the monitor and control systems employed, including internal and external audits (Claessens et al., 2000).

Morck and Yeung (2004) argue that wealthy families employ a pyramidal ownership structure so they can control more firms for less investment. Although the family at the top of the pyramidal structure controls all the firms through layers of ownership, the cost of the subsequent investments in the structures is only a fraction of the original investment. For example, as illustrated in Figure 3-2, the Al-Shamali family's[13] pyramid ownership structure enables the family to control firms in the pyramid's lower tiers at a small fraction of their initial investment. If the Al-Shamali family had started their investment at the top of the pyramid with a one million dollar sum, they would have direct control of Firms B and C at the cost of 74% and 16.37%, respectively, of their initial investment (assuming all firms have the same value). Moreover, they have 5.76% indirect ownership of Firm C with a cost equal 4.26% (74% × 5.76%) of their investment in Firm B. They also own 25.13% of Firm D at a cost equal 5.1% of their investment in Firm C. Finally, they own and control Firm F at a cost of 17.6% (total cost of direct and indirect ownership) of their initial investment. This example illustrates how families use their own firms in the private sector to interact with and engage in the public sector to control several listed firms by using a pyramidal structure.

[13] The Al-Shamali family is an example of a Kuwaiti non–royal family using the pyramidal ownership structure to invest in the KSE.

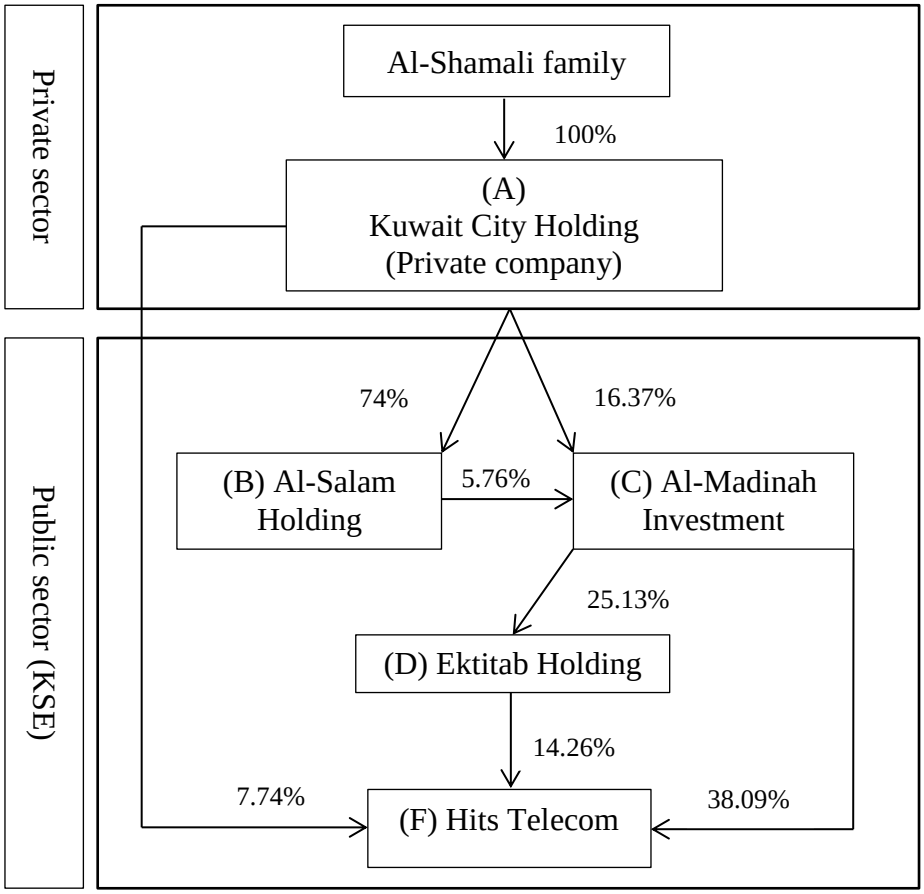

Figure 3-2 Al-Shamali Family Ownership Structure in KSE

Following Claessens et al.'s (2000) model, level of family ownership is calculated by multiplying the ownership stakes along the pyramid chains, while the percentage of family control is equal to the sum of the weakest links in the chains of voting rights. The weakest link of voting rights is used because the family at the top of the pyramid can use the weakest votes to control firms in the pyramidal structure (Chung & Chan, 2012):

$$Family\_own_i = Multiplication\ of\ ownership\ stakes\ along\ the\ pyramid\ chains \quad (3.3a)$$

$$Family\_cntrl_i = Sum\ of\ the\ weakest\ links\ in\ the\ pyramid\ chains \quad (3.3b)$$

To illustrate the family ownership and control computation, the Al-Shamali family ownership is again used. The Al-Shamali family has 74% of cash flow rights and voting rights in Firm B. Therefore, there is no separation between ownership and control for the Al-Shamali family in Firm B. However, for Firm D (as illustrated in

Table 3-5), the family owns 5% of cash flow rights ($Family\_own_i$), but has 22.13% of voting rights ($Family\_cntrl_i$).

Table 35- Al-Shamali Family Ownership and Control of Firm D

Cash flow rights (ownership)		
Chain	Product of the ownership stakes	
A, C, D	16.37% × 25.13%	4%
A, B, C, D	74% × 5.76% × 25.13%	1%
Total ownership		5%
Voting rights (control)		
Weakest link in chain		
A, C, D		16.37%
A, B, C, D		5.76%
Sum of the weakest links (Total control)		22.13%

To enforce the concept of separation between a firm's ownership and control in pyramidal structures, the analysis is extended to Firm F in the Al-Shamali family example. The Al-Shamali family have direct ownership and indirect ownership in Firm F. Ownership and control computation is illustrated in Table 3-6, which shows that the family owns 30% of the cash flow rights ($Family\_own_i$) and 44.13% of the voting rights ($Family\_cntrl_i$) of Firm F.

Table 3-6 Al-Shamali Family Ownership and Control of Firm F

Cash flow rights (ownership)		
Direct ownership A, F		7.74%
Chain	Product of the ownership stakes	
A, C, F	16.37% × 38.09%	6%
A, C, D, F	16.37% × 25.13% × 14.26%	1%
A, B, C, D, F	74% × 5.76% × 25.13% × 14.26	15%
Total ownership		30%
Voting rights (control)		
Direct voting rights		7.74%
Weakest link in chain		
A, C, F		16.37%
A, C, D, F		14.26%
A, B, C, D, F		5.76%
Sum of the weakest links (Total control)		44.13%

As per Claessens et al.'s (2002) model, both the variables of $Family\_own_i$ and $Family\_cntrl_i$ are used to determine the relationship between family ownership and the quality of the audit pair composition.

To identify a family's pyramidal ownership ($Family\_own_i$) and family control ($Family\_cntrl_i$), this thesis uses the database of the Aljoman Centre for Economic Consultancy. This database provides information about all the shareholders of listed firms in Kuwait who have 5% or more of total equity. The first step is collecting information about family ownership to create a list of all family names investing in the market. This step recognises the families' business groups. All shareholders with 5% or more equity are examined to assess their relationship with the families' business groups. The family name of the shareholder is used to decide their affiliation with a family's business groups. This enables the tracking of family members through both female and male members because in Kuwait (as in other Middle Eastern countries), women keep their last name after marriage.

In Kuwait, it is common practice for families to use private firms to invest in the market. Therefore, the second step in identifying a family's pyramidal ownership structure is to search all private firms investing in the market to find their owners. This is done by searching the private firms' websites, KSE announcements and financial newspapers. As noted by Claessens et al. (2000) and Chung and Chan (2012), a family's direct ownership and control is the sum of the following two types of ownership: the shares owned by family members and the shareholding of private firms owned by the family (Chung & Chan, 2012; Claessens et al., 2000). The next step is to distinguish the listed firms affiliated with a family business group. To do this, data from the Aljoman Centre are used to find all firms with ownership of other listed firms, before each firm is examined separately to construct the chain of ownership, thus determining the ultimate owner. This process is effective in the Kuwaiti market because of the limited number of listed firms (200 listed firms). The final step is to calculate the family ownership and family control for each firm that has a family pyramidal ownership structure.

This thesis uses an additional alternate measure to proxy family control of firms in which a family has invested by determining whether the family is the major shareholder. This alternative measure is used only for the sensitivity analysis. Jaggi, Leung and Gul (2009) argue that controlling families (major shareholders) are more likely to appoint family members on boards to maintain control and ensure family objectives are achieved. Additionally, controlling family board members have influence over the appointment and reappointment of independent directors. In this case, the role of independent directors is more focused on providing expertise and advice, rather than

monitoring and controlling management activities (Anderson & Reeb, 2004). Therefore, the alternative measure of family control is a binary variable that equals one when the family is the major shareholder, and zero otherwise:

$$Family\_maj_i = 1 \; if \; the \; family \; is \; the \; major \; investor, and \; 0 \; otherwise. \tag{3.3c}$$

3.4.4 ROYAL FAMILY OWNERSHIP

The royal family is a special class of family in Kuwait that combines political power and access to information. Therefore, they provide a different setting to non-royal families. The royal family in Kuwait uses the direct and pyramidal ownership structure to invest in listed firms. Therefore, to compute royal family ownership, $Royal\_own_i$, and royal family control, $Royal\_cntrl_i$, the same procedure as established for non-royal family ownership is used:

$$Royal\_own_i = Multiplication \; of \; the \; ownership \; stakes \; along \; the \; pyramid \; chains \tag{3.4a}$$

$$Royal\_cntrl_i = Sum \; of \; the \; weakest \; links \; in \; the \; pyramid \; chains \tag{3.4b}$$

These two variables are used to test Hypothesis 4, which states that firms with royal family ownership are less likely to employ a higher quality audit.

This thesis uses an additional alternate measure to proxy royal family control of the firms in which they have invested. The variable $Royal\_maj_i$ is used to distinguish firms that have royal family ownership as the major owners of the firm. This alternative measure is used only for the sensitivity analysis.

$$Royal\_maj_i = 1 \; if \; royal \; family \; is \; the \; largest \; ownership \; group, and \; 0 \; otherwise \tag{3.4c}$$

3.4.5 ISLAMIC BUSINESS PRINCIPLES

As discussed in Chapter 2, firms that adopt Islamic business principles are classified into two groups: Islamic firms and Islamic-compliant firms. Islamic firms consider Islamic business principles crucial to their business operations and state their status as Islamic firms in their article of association. Moreover, they include SSBs in their organisational structures. Islamic-compliant firms are conventional firms that meet

AAOIFI standards to be classified as Islamic compliant. Islamic-compliant firms do not use SSBs and do not mention their status as Islamic compliant in their article of association. Therefore, they receive yearly evaluation to ensure their continued compliance with AAOIFI standards. AAOIFI standards consider firms Islamic compliant if the total sum of non-permissible income derived from the following list is less than 5% of their total income:

- alcoholic beverages
- pork products
- tobacco products
- producing and distributing music media
- gambling/casinos
- cinema and adult entertainment
- conventional insurance
- hotels serving alcohol or operating casinos
- non-operating interest
- weapons and defence
- financial services (such as interest and derivatives).

For a more in-depth discussion of the screening practices of Islamic-compliant firms, see Appendix E.

Using AAOIFI standards, the leading Islamic bank in Kuwait, KFH, reviews listed firms annually and issues a list of firms that are Islamic and Islamic compliant. Hypothesis 5a states that Islamic and Islamic-compliant firms are more likely to employ higher quality audit firms. This hypothesis does not distinguish between Islamic firms and Islamic-compliant firms; thus, this thesis uses the 2012 KFH list to distinguish Islamic and Islamic-compliant firms from non-Islamic firms. The variable $Islamic_i$ is the proxy for Islamic and Islamic-compliant firms. Listed firms are recorded to be dichotomous by allocating a value of one if the firm is in the KFH list, and zero otherwise:

$Islamic_i$ = 1 *if firm i has SSB or is Islamic compliant according to the KFH 2012 list, and* 0 *otherwise*

(3.5a)

Hypothesis 5b states that, among firms adopting Islamic principles, firms with SSBs are expected to be positively associated with a higher quality audit firm. As discussed in Chapter 2, Islamic firms are expected to employ higher quality audit firms that have the required expertise to ensure compliance with the religious rulings and guidelines issued by the SSB. In addition, higher quality auditors are essential to fill the gap of SSB members' lack of financial expertise. Therefore, this thesis uses the variable SSB_i to proxy for Islamic firms with an SSB:

$$SSB_i = 1 \textit{ if Islamic firm i has a SSB, and } 0 \textit{ otherwise} \quad (3.5b)$$

Each firm in the KFH list is searched to determine whether it has an SSB in its organisational structure, and firms with an SSB are allocated a value of one, and zero otherwise. Table 3-7 shows the population of 2012 Islamic firms in the KSE.

Table 3-7 Population of Islamic Firms in the KSE in 2012

Islamic firms	# of Islamic firms	% of total listed firms (N = 200)
Islamic firms with an SSB	62	31
Islamic-compliant firms	76	38
Total	**138**	**69**

3.5 JOINT AUDIT QUALITY

The audit literature provides different measurements of audit quality. Many studies use auditor size, reputation and fees as a proxy of audit quality (Chadegani, 2011; Hussein & Hanefah, 2013). In Kuwait, there is no requirement for listed firms to disclose audit fees (Al-Harshani, 2008). Therefore, this thesis uses the audit firm size as the main indicator of audit quality.

Different studies measure audit quality (AQ_i) as a dichotomous variable (Big N versus non–Big N audit firms), in which the use of a Big N auditor represents a higher quality audit. This is consistent with DeAngelo's (1981b) argument that a larger audit firm indicates a higher quality audit function. Bedard, Coulombe and Courteau (2000) use three categories to determine audit quality: Big N, national and local audit firms, where Big N firms represent higher quality and local audit firms represent lower quality. In the context of joint audits, Piot (2001) classifies audit pairs with at least one Big N

auditor as having the highest quality audit function, followed by audit pairs with a national major audit firm. Audit pairs with two local audit firms are considered the lowest quality. Francis at el. (2009) categorise audit quality into four categories: audit pairs with two Big N auditors (highest audit quality), followed by audit pairs that consist of a Big N and non–Big N auditor. In local audit firms, they assume audit pairs with large, local audit firms are higher in quality than audit firms with two small, local audit firms.

External auditors in Kuwait are categorised into three main categories: Big N, internationally affiliated and local auditors. Kuwaiti law prohibits non-Kuwaiti auditors from starting an audit business (Ameri Decree, 1981); however, they can join a Kuwaiti-owned audit firm and practise audit functions. Therefore, for international audit firms to practice in Kuwait, they must form an affiliation with a local audit firm. Local audit firms are interested in affiliation with high-quality international audit firms because this can benefit their reputation and provide technical support. Since there is no official ranking of auditors in Kuwait (Algharaballi, 2013), this thesis aligns with previous auditor quality studies in considering the size of an audit firm an appropriate proxy for auditing quality (Clatworthy et al., 2009; Francis et al., 2013a; Francis & Yu, 2009; Peel & Makepeace, 2012). Therefore, Big N–affiliated audit firms are viewed the highest quality in Kuwait, followed by internationally affiliated audit firms. Local audit firms are viewed the lowest quality because of their size in comparison to Big N–affiliated and internationally affiliated audit firms. In 2012, internationally affiliated audit firms in Kuwait included the top 10 auditors from the US and UK, such as RSM, BDO, Grant Thornton, Moore Stephens, Baker Tilly and PKF (Carlino, 2011).

The quality of joint audit function in Kuwait varies based on the composition of audit pairs. Therefore, in accordance with previous studies' argument that accounting firm size is a proxy for quality (Francis & Yu, 2009; Sundgren & Svanström, 2013) and following Hay and Davis (2004), the joint audit quality intervening variable, AQ_i, is measured by examining auditor choice using six ordinal levels of audit pair quality, defined as follows. The audit choice of two Big N auditors is considered the highest level of audit quality, followed by one Big N auditor and one internationally affiliated auditor. The third highest quality is one Big N auditor and one local firm auditor. The fourth highest quality is two internationally affiliated auditors. The fifth highest quality is one internationally affiliated firm auditor and one local firm auditor. The lowest

quality is an audit pair comprising two local auditors. This categorisation is summarised in Table 3-8.

Table 3-8 Joint Audit Composition in Kuwait

Joint audit quality (AQ_i)	Joint audit composition
6	Two Big N auditors
5	Big N auditor paired with internationally affiliated auditor
4	Big N auditor paired with local auditor
3	Two internationally affiliated auditors
2	One internationally affiliated auditor paired with one local auditor
1	Two local firm auditors

Note: An AQ_i equal to six represents the highest level of audit quality, while an AQ_i equal to one represents the lowest audit quality.

Following the joint audit literature (Francis et al., 2009; Piot, 2001), the joint audit quality dependent variable is also tested as a series a dichotomous partitions of auditor pairs, defined as follows:

AQa_i = one if the audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero for all other audit pairs

AQb_i = one if the audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero if the audit pair has one Big N and one local auditor

AQc_i = one if the audit pair has at least one Big N auditor, and zero if the audit pair has no Big N auditor

AQd_i = one if the audit pair includes Ernst & Young (EY) and/or Deloitte & Touche (DT) auditors, and zero if the audit pair has no EY or DT auditors

AQe_i = one if the audit pair has one Big N and one internationally affiliated auditor, and zero if the audit pair has two internationally affiliated auditors or one international and one local auditor.

(3.6)

3.6 FINANCIAL REPORTING QUALITY

In the second part of this research, the effect of joint audit quality on the quality of financial reporting is tested (see Figure 2-1). The FRQ construct is measured through developing two measures. The first measure is earnings management, which captures

the quality of financial reporting in GAAP, while the second measure is restatements of financial reporting. Financial reporting restatements indicate a level of quality that is lower than the acceptable level of quality, and violates GAAP.

3.6.1 EARNINGS QUALITY

Hypothesis 6a posits that higher external joint audit quality is negatively associated with earnings management. This thesis employs two measures of earnings management: the modified Dechow and Dichev model and the abnormal accruals model. Historically, the earnings management literature uses a range of empirical earnings quality measures derived from: '(1) the time-series properties of earnings; (2) selected qualitative characteristics in the FASB's Conceptual Framework; (3) the relations among income, cash and accruals; and (4) implementation decisions' (Schipper & Vincent, 2003, p. 99). The most common techniques for measuring earnings management stem from Category 3 of Schipper and Vincent (2003) (Dechow, Hutton, Kim & Sloan, 2012). Similarly, this thesis uses accruals quality to proxy for earnings quality and test Hypothesis 6a—that higher external joint audit quality is negatively associated with earnings management.

Earnings management empirical research distinguishes abnormal from normal accruals by interrupting the accrual process. Normal accruals are used to capture accounting adjustments in order to reflect firms' fundamental performance, while abnormal accruals are used to capture distortions created by applying the accounting rules or earnings management (Dechow et al., 2010). Different models have been developed to capture accruals quality as a proxy for earnings quality, including the Jones (1991) model, modified Jones model and Dechow and Dichev (2002) model. For more detailed discussion of the Jones (1991) and Dechow and Dichev (2002) models, see Appendix F. The next two sections discuss the two measurements of earnings quality: the modified Dechow and Dichev model and the abnormal accruals model.

3.6.1.1 MODIFIED DECHOW AND DICHEV MODEL

The Dechow and Dichev (2002) model calculates accruals quality by measuring the standard deviation of accrual estimation error for a period of five years. The accrual estimation errors are the result of regressing change in working capital accruals on cash flows from periods t, $t + 1$ and $t - 1$. McNichols (2002) finds that the model's explanatory power improves after adding two variables from the original Jones (1991)

model to the Dechow and Dichev (2002) model. Thus, to increase the explanatory power of the Dechow and Dichev (2002) model, McNichols (2002) suggests including two variables: the change in current sales and level of property plant and equipment. These two variables stem from the original Jones (1991) model. The following shows the modified Dechow and Dichev (2002) accrual quality model. All variables in the equation are divided by average total assets:

$$\Delta WCA_{j,t} = \beta_0 + \beta_1 CFO_{j,t-1} + \beta_2 CFO_{j,t} + \beta_3 CFO_{j,t+1} + \beta_4 \Delta REV_{j,i} + \beta_5 PPE_{j,t} + \varepsilon_{j,i} \quad \text{(3-7a)}$$

where, for firm j, $\Delta WCA_{j,t}$ is the change in working capital accruals measured by (Δ Current Assets – Δ Current Liabilities – Δ Cash + Δ Short term debt); $CFO_{j,t-1}$ is the cash flow from operations in year t – 1; $CFO_{j,t}$ is the cash flow from operations in year t; $CFO_{j,t+1}$ is the cash flow from operations during year t + 1; $\Delta REV_{j,i}$ is the change in revenue in year t; $PPE_{j,t}$ is gross property, plant and equipment in year t; and $\varepsilon_{j,i}$ is the firm-specific accrual estimation error for year t.

The Dechow and Dichev (2002) model captures the extent that working capital accruals map into cash flow realisation, where a poor mapping to cash flow indicates low accrual quality. Consequently, accrual estimation errors and their subsequent corrections represent noise that reduces the usefulness of accruals. Thus, accruals quality decreases with the magnitude of accrual estimation errors (Dechow & Dichev, 2002). Accrual estimation errors can result from situations such as when the cash collected from a debtor is less than what was originally recorded as the credit sale. This can occur due to the bankruptcy of the debtor or because of opportunistic earnings management undertaken by management. Both these events have a negative effect on earnings quality.

The standard deviation of the accrual estimation errors, $\varepsilon_{j,i}$, from Equation 3-7a is a firm-level measure of accruals and earnings quality. This study interprets a low standard deviation of the accrual estimation errors as an indication of the high quality of accruals, lower earnings management and higher FRQ. Further, higher standard deviations of accrual estimation errors denote a poorer match between accruals and cash flows, and subsequently lower quality accruals, higher earnings management and lower FRQ. The variable $Accrl_j$ is used as a proxy for earnings quality, where $Accrl_j$ = the

accruals quality for each firm in the sample. It equals the standard deviation of the firm-specific accrual estimation error ($\sigma\varepsilon_i$) found in the Dechow and Dichev (2002) model:

$$\Delta WCA_{j,t} = \beta_0 + \beta_1 CFO_{j,t-1} + \beta_2 CFO_{j,t} + \beta_3 CFO_{j,t+1} + \beta_4 \Delta REV_{j,i} + \beta_5 PPE_{j,t} + \varepsilon_{j,i} \quad (3.7b)$$

This study further examines accruals quality by using discretionary and innate components. The two components of accruals are used as alternate measures for accruals quality to test whether joint audit quality has a differential effect on FRQ. Previous research argues that discretionary accruals occur due to opportunistic and self-interested behaviour. Thus, it is expected that a higher quality audit function is used to minimise discretionary earnings management and improve the credibility of reported financial information (Becker et al., 1998; Francis et al., 1999).

3.6.1.2 ABNORMAL ACCRUALS MODEL

This thesis employs a second model to capture the quality of earnings by distinguishing abnormal from normal accruals, as developed by Defond and Park (2001) and applied in Francis and Wang (2008) and Francis et al. (2009). As per Francis et al. (2009), abnormal accruals are defined as abnormal working capital accruals, $AWCacc_t$, scaled by lagged assets. $AWCacc_t$ is calculated using the following model:

$$AWCacc_t = WC_t - [(WC_{t-1}/S_{t-1}) \times S_t] \quad (3.8)$$

where $AWCacc_t$ is the abnormal working capital accruals in the current year; WC_t is the non-cash working capital in the current year, computed as (current assets – cash and cash equivalents) – (current liabilities – short-term debt); WC_{t-1} is the working capital in the prior year; S_t is the sales in the current year; and S_{t-1} is the prior year's sales.

Defond and Park (2001) define working capital accruals as the change in non-cash working capital. Therefore, the Defond and Park (2001) model is based on finding the difference between the reported working capital and the market's expectation of the normal working capital required to support the current sales level. The difference between actual working capital and the market's expectations of required working capital is the abnormal working accruals that are expected to reverse against future earnings (Defond & Park, 2001). Expected working capital is calculated by finding the ratio of the prior year's non-cash working capital to sales (WC_{t-1}/S_{t-1}), then applying

this ratio to the following year's actual sales to predict the next year's expected working capital accruals ($WC_{t-1}/S_{t-1}) \times S_t$).

Defond and Park's (2001) model can be used to determine the income-increasing accruals (overstated accruals) and income decreasing accruals (understated accruals). Therefore, this research uses the absolute value of abnormal accruals to assess earnings quality and determine the effect of joint audit quality on the quality of financial reporting, as suggested in Hypothesis 6a.

3.6.2 RESTATEMENTS

Hypothesis 6b proposes that a higher external joint audit quality is negatively associated with restatements. In most cases, financial reporting restatements indicate that the original reported statements are in violation of GAAP, and demonstrate that the external auditors have failed to enforce GAAP (Palmrose & Scholz, 2004). Therefore, restatements of financial information indicate low-quality audit function (Francis & Michas, 2013).

The data on restating firms in Kuwait are obtained from the Aljoman Centre for Economic Consultancy database. The Aljoman Centre provides data on accounting restatements announcements for the period 2005 to 2012. The data show a high rate of restatements, but a small number of restatements because of the number of listed firms in KSE. Therefore, to examine the relationship between chosen joint audit quality and restatements, this thesis uses the restatements data for the entire available period of 2005 to 2012. Neither the Aljoman database nor the KSE market website provide information about the driver of accounting restatements or indicate whether the reason for restatement is intentional or unintentional misuse of facts applied to prior reported financial statements. However, the Aljoman database does provide information about the type of restatement. Restatements are grouped into four categories: end of year results revision (Category 1), quarter results revision (Category 2), capital-raising proposal revision (Category 3) and announced shareholders dividends revisions (Category 4). All four categories are dependent on the reported financial information that is assumed to be reviewed or audited by an external audit. For the period 2005 to 2012, there were 116 KSE total restatements, with 47 in Category 1, 20 in Category 2, 31 in Category 3 and 18 in Category 4 (Table 3-9).

Table 3-9 KSE Restatements

	Categories of restatements				
	1	**2**	**3**	**4**	**Total yearly**
2005	3	4	1	2	10
2006	11	1	6	4	22
2007	3	0	4	1	8
2008	2	6	5	4	17
2009	10	5	12	3	30
2010	5	1	0	1	7
2011	6	2	3	0	11
2012	7	1	0	3	11
Total	**47**	**20**	**31**	**18**	**116**

For the scope of this thesis, all restatements are considered as a combined phenomenon, rather than examining each category of restatements. Therefore, it is beyond the scope of this thesis to examine each category of restatements. Consistent with prior literature (Alyousef & Almutairi, 2010; Francis et al., 2013a; Palmrose & Scholz, 2000, 2004), this research uses a categorical variable, $Restate_i$, that is equal to one if a firm announces an accounting restatement, and zero otherwise:

$$Restate_i = 1\ if\ a\ firm\ i\ restate\ its\ reported\ financial\ data\ in\ 2005 - 2012, and\ 0\ otherwise. \quad (3.9)$$

Since joint audits are required in only a few countries, no previous studies examine the relationship between firms' financial information restatements and the quality of audit pair composition. Therefore, this thesis draws from the approach of Kinney, Palmrose and Scholz (2004) to compare restating firms with non-restating firms to determine whether the quality of audit pairs is associated with restatements. Each restating firm is matched with another company that did not restate its financial statements during the period 2005 to 2012. The matching firm is the closest in size (total assets) that is in the same industry as the restating firm.

3.7 CONTROL VARIABLES

To test the association between governance structure (ownership structure and Islamic principle adoption), the quality of audit pair composition and FRQ, it is important to include control variables that can be associated with joint audit quality and/or FRQ. Prior research identifies the firm's size, profitability, complexity and presence of an audit committee as the key variables to control (Francis et al., 2009). The measurements of these control variables are detailed in this section.

3.7.1 FIRM SIZE

Firm size is an important factor that influences the level of audit quality and FRQ. Larger firms tend to produce more public information, experience less information asymmetry (LaFond & Watts, 2008) and are more likely to hire higher quality auditors (Carcello & Nagy, 2004; Chaney & Philipich, 2002). Consistent with previous literature, this thesis uses the natural logarithm of total assets as a proxy for firm size (Baber, Liang & Zhu, 2012; Baxter, 2007; Francis & Krishnan, 1999; Francis et al., 2009; Krishnan & Visvanathan, 2008):

$$Size_i = Log\ of\ total\ assets\ for\ firm\ i$$

(3.10a)

3.7.2 AUDIT COMMITTEE

The effect of audit committees on the level of external audit quality is well established in the literature (Abbott & Parker, 2000; Abbott, Parker, Peters & Raghunandan, 2003; Abbott, Parker & Peters, 2004; Bedard, Chtourou & Courteau, 2004; Carcello, Neal, Palmrose & Scholz, 2011). Ghafran and O'Sullivan's (2012) review study provides conclusive evidence that audit committees' formation, structure, financial expertise and activeness play an important role in leading to higher quality audit function, improved financial reporting and reduced probability of misstatement. In Kuwait, it is voluntary for firms to have an audit committee. Therefore, listed firms are recorded to be dichotomous by allocating a value of one if a firm has an audit committee, and zero otherwise:

$$AuditComm_i = 1\ if\ a\ firm\ has\ an\ audit\ committee, and\ 0\ otherwise$$

(3.10b)

3.7.3 CEO INVOLVEMENT

The literature finds that CEO involvement is reflected in the appointment of board members and formation of audit committees (Carcello et al., 2011; Shivdasani & Yermack, 1999). Carcello et al. (2011) find that the effectiveness of an audit committee's oversight of financial reporting is significantly weakened when there is CEO involvement in the director selection process. Cohen, Gaynor, Krishnamoorthy and Wright (2011) find that external auditors consider CEO influence over audit committee independence when making audit adjustments regarding earnings management issues. In settings where there is no requirement for an audit committee, it

is expected that the influence of CEO involvement on audit quality choice will be more severe. In Bangladesh, Karim, van Zijl and Mollah (2013) find a negative and significant association between CEO–Chair duality and the likelihood of hiring a higher quality auditor. CEO presence on the board as a board chair or board member indicates CEO involvement with and influence over the decision-making process. Therefore, listed firms are recorded to be dichotomous by allocating a value of one if a firm's CEO is a board chair and/or board member, and zero otherwise:

$$CEO\_involve_i = 1 \text{ if a firm's CEO is a board chair and/or board member, and } 0 \text{ otherwise} \quad (3.10c)$$

3.7.4 COMPLEXITY

The literature provides evidence that, as a firm's complexity increases, the demand for a higher quality audit increases. Engel, Hayes and Wang (2010) and Wysocki (2010) predict that the demand for monitoring the financial reporting process is high when a firm has complex business operations. They argue that complex firms are those that require a higher volume of audit services and possibly higher audit fees. A higher audit fee implies higher audit quality, either through more audit effort or greater expertise of the auditor (Francis, 2004). For the purposes of this thesis, the number of a firm's consolidated subsidiaries is used to indicate the level of complexity (O'Sullivan, 2000; Simon, 2011; Xu, 2011). As the number of consolidated subsidiaries increases, a higher level of complexity is indicated:

$$Complex_i = Number\ of\ firm\ i\ consilidated\ subsidiaries \quad (3.10d)$$

3.7.5 PROFITABILTY

Profitable firms are more likely to hire higher quality audit firms because they can afford to pay higher fees (Francis et al., 2009; Lawrence et al., 2011). Consistent with previous literature, this thesis uses firms' return on assets (ROA) as a proxy for their profitability (Francis et al., 2013a; Francis, Michas & Seavey, 2013b; Hoitash, Markelevich & Barragato, 2007; Johnson, Khurana & Reynoldas, 2002):

$$ROA_i = \frac{Net\ income}{Total\ assets}$$

(3.10e)

3.7.6 LEVERAGE

Agency theory argues that debt holders are more interested in higher audit quality as a governance mechanism to minimise wealth transfers to stockholders (Eichenseher & Shields, 1989). Several prior studies in the US find evidence of positive associations between leverages and audit quality (DeFond, 1992; Francis & Wilson, 1988; Reed, Trombley & Dhaliwal, 2000). In East Asian countries, Fan and Wong (2005) find evidence only for Singapore. Broye and Weill (2008) find a significant positive association between leverage and audit choice in four European countries: Denmark, Ireland, Spain and the UK. In the current study, leverage is measured by the ratio of total debt to total assets at the end of 2012. This measure is consistent with several prior studies (Broye & Weill, 2008; Francis et al., 2009; Skinner & Srinivasan, 2012):

$$Leverage_i = \frac{Total\ debt}{Total\ assets}$$

(3.10f)

3.7.7 INDUSTRY

Prior studies indicate the importance of a firm's industry in determining the quality of the auditor hired and reported financial information (Beasley, Carcello, Hermanson & Lapides, 2000; Cohen, Krishnamoorthy & Wright, 2002). Listed firms in the KSE are categorised in seven sectors: banking, investment, real estate, industrial, food, services and insurance. However, due to similarities among some KSE-sector operations and in order to avoid categories with a small number of firms, this thesis combines some of these sectors. The investment and insurance sectors are combined into one financial institutions category, while the food and industry sectors are combined into one industrial category. The bank sector is excluded because these firms are required by the Central Bank to hire auditors from Big N audit firms. Table 3-10 shows the number of companies from the sample in each market sector.

Table 3-10 Market Sectors of KSE

Industry	No. of companies	% of total sample (N = 200)
Financial institutions	60	30.0
Real estate	43	21.5
Industrial	36	18.0
Services	61	30.5
Total	200	100

Three dummy variables (K-1) are used to capture the firm's industry effect on the level of joint audit quality and FRQ. Each industry variable equals one if the firm belongs to that industry, and zero otherwise:

$$Industry_i = 1 \; if \; firm \; i \; belongs \; to \; industry \; i, and \; 0 \; otherwise \tag{3.10g}$$

Variables used to indicate corporate governance (ownership structure and Islamic principles adoption), joint audit quality and financial reporting are summarised in Table 3-11.

Table 3-11 Summary of Measures

Type	Hypothesis	Variables	Definition
Independent variables	H1a	Instit_own	Percentage of shares owned by institutional investors
	H1b	Active_instit	Percentage of shares owned by foreign and/or mutual funds
	H1c	Passive_instit	Percentage of shares owned by banks and/or insurance companies
	H2	Govt_own	Percentage of shares owned by government agencies
	H3	Family_own	Family ownership: multiplication of the ownership stakes along the pyramid chains
		Family_cntrl	Family control: sum of the weakest links in the pyramid chains
	H4	Royal_own	Multiplication of the royal family ownership stakes along the pyramid chains
		Royal_cntrl	Sum of the weakest links in the pyramid chains
	H5a	Islamic	One if the firm is Islamic or Islamic compliant according to the KFH 2012 list, and zero otherwise
	H5b	SSB	One if the Islamic or Islamic-compliant firm has an SSB, and zero otherwise
Intervening variable		AQ	Joint audit composition
Dependent variables	H6a	Accrl	Accruals quality for firm
		AWCacc	Abnormal working capital accruals for firm
	H6b	Restate	One if the firm restates its reported financial statements, and zero otherwise
Control variables		Size	Log of total assets for firm
		AuditComm	One if the firm has an audit committee, and zero otherwise
		CEO_involve	One if the same individual serves as CEO and board chair or board member, and zero otherwise
		Complex	Number of firm's consolidated subsidiaries
		ROA	Net income divided by firm's total assets
		Leverage	Total debt divided by total assets
		Industry	One if the firm belongs to industry, and zero otherwise

3.8 ANALYSIS PROCEDURES

The analysis procedures use the variables developed in this chapter to test the relationship between corporate governance (ownership structure and Islamic principle adoption), quality of audit pair composition and FRQ. An initial descriptive analysis highlights the summary statistics of the different variables. Univariate analysis followed by multivariate analysis (ordinary least squares [OLS] regressions) to test the hypotheses of the study. Finally, sensitivity analysis is undertaken to determine the robustness of the results. The analysis procedures are detailed in the following sections.

3.8.1 DESCRIPTIVE STATISTICS

This study calculates the descriptive statistics of the different variables examined. The descriptive statistics include the minimum and maximum values, as well as the means, medians and standard deviations for the various measures. The data are checked to ensure there is no violation of statistical test assumptions. Moreover, the descriptive analysis includes a correlation analysis of the independent and control variables in the study, thereby indicating the preliminary relationships between these variables.

3.8.2 MULTIVARIATE ANALYSIS

This thesis uses regression analyses to test the hypotheses developed in Chapter 2.[14] The parameters for Hypotheses 1 to 5 are estimated using ordinal and logistic regression. The following are the regression models used to test the first five hypotheses.

Hypothesis 1a: Companies with greater institutional investor ownership are more likely to employ a higher quality joint.

Ordinal regression model:

$$AQ_i = \beta_0 + \beta_1 Instit\_own_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

Logistic regression model:

$$AQa, b, c, d, e, _i = \beta_0 + \beta_1 Instit\_own_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i \quad (3\text{-}12)$$

[14] The thesis employs several ordinal and logistics regression models that include audit quality as dependent variable, ownership structure and Islamic business variables as independent variables and board structure variables as controls. Regression models use ownership structure variables one variable at a time to be consistent with thesis hypotheses. Since listed firms in Kuwait are characterized by high ownership concentration by one type of owners, the hypothesis and regression models are designed to reflect this phenomenon. Moreover, including all ownership variables in the regression model will have negative impact on the degree of freedom of the regression model as each independent variable will reduce one degree of freedom from the main square error."

Model 3-12 tests the alternative hypotheses as follows:

$$H_0: \beta_1 = 0$$

$$H_1: \beta_1 > 0$$

where, in the ordinal regression model for firm i, AQ_i (joint audit quality) equals six if the audit pair is two Big N auditors, five if the audit pair is one Big N and one internationally affiliated auditor, four if the audit pair is one Big N and one local auditor, three if the audit pair is two internationally affiliated auditors, two if the audit pair is one internationally affiliated and one local auditor, and one if the audit pair is two local auditors.

In the logistic model, $AQa,b,c,d,e,_i$ captures audit quality of the five audit partitions, as explained in Section 3.5. $Instit\_own_i$ is the percentage of shares owned by institutional investors. $Size_i$ is the log of total assets for firm i. $AuditComm_i$ is equal to one if firm i has an audit committee, and zero otherwise. $Complex_i$ is the number of firm i's consolidated subsidiaries. ROA_i is the firm's profitability: net income divided by the firm's total assets. $CEO\_involve_i$ is equal to one if the same individual serves as both CEO and board chair or board member in firm i, and zero otherwise. $Leverage_i$ is the ratio of total debt to total assets, and $Industry_i$ equals one if firm i belongs to industry, and zero otherwise.

Hypothesis 1b: Companies with greater bank and insurance company ownership are less likely to employ a higher quality joint audit.

Hypothesis 1c: Companies with greater mutual fund and foreign investor ownership are more likely to employ a higher quality joint audit.

Ordinal regression model:

$$\begin{aligned} AQ_i = \ & \beta_0 + \beta_1\, Active\_instit_i + \beta_2\, Passive\_instit_i + \beta_3\, Size_i + \beta_4\, AuditComm_i \\ & + \beta_5\, Complex_i + \beta_6\, ROA_i + \beta_7\, CEO\_involve_i + \beta_8\, Leverage_i \\ & + \beta_9\, Industry_i + \varepsilon_i \end{aligned}$$

Logistic regression model:

$$\begin{aligned} AQa,b,c,d,e,_i = \ & \beta_0 + \beta_1\, Active\_instit_i + \beta_2\, Passive\_instit_i + \beta_3\, Size_i + \\ & \beta_4\, AuditComm_i + \beta_5\, Complex_i + \beta_6\, ROA_i + \beta_7\, CEO\_involve_i + \beta_8\, Leverage_i + \\ & \beta_9\, Industry_i + \varepsilon_i \end{aligned}$$

(3-13)

Model 3-13 tests the alternative hypothesis as follows:

$$H_0: \beta_1 = \beta_2$$

$$H_1: \beta_1 > \beta_2$$

where, for firm i, $Active\_Instit_i$ is the percentage of shares owned by foreign and/or mutual funds, and $Passive\_Instit_i$ is the percentage of shares owned by banks and/or insurance companies.

Hypothesis 2: Companies with greater government ownership are less likely to employ a higher quality joint audit.

Ordinal regression model:

$$AQ_i = \beta_0 + \beta_1 Govt\_own_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

Logistic regression model:

$$AQa,b,c,d,e,_i = \beta_0 + \beta_1 Govt\_own_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

(3-14)

Model 3-14 tests the alternative hypothesis as follows:

$$H_0: \beta_1 = 0$$

$$H_1: \beta_1 < 0$$

where, for firm i, Gov_own_i is the percentage of shares owned by government agencies.

Hypothesis 3: There is a relationship between the level of family ownership and joint audit quality.

Ordinal regression model:

$$AQ_i = \beta_0 + \beta_1 Family\_own_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

$$AQ_i = \beta_0 + \beta_1 Family\_cntrl_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

Logistic regression model:

$$AQa,b,c,d,e,_i = \beta_0 + \beta_1 Family\_own_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

$$AQa,b,c,d,e,_i = \beta_0 + \beta_1 Family\_own_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i \quad (3\text{-}15)$$

Model 3-15 tests the alternative hypotheses as follows:

$$H_0: \beta_1 = 0$$

$$H_1: \beta_1 \neq 0$$

and /or

$$H_0: \beta_2 = 0$$

$$H_1: \beta_2 \neq 0$$

where, for firm i, $Family\_own_i$ is family ownership, which equals multiplication of the ownership stakes along the pyramid chains, and $Family\_cntrl_i$ is family control, which equals the sum of the weakest links in the pyramid chains.

Hypothesis 4: Companies with greater royal family ownership are less likely to employ higher quality joint audits.

Ordinal regression model:

$$AQ_i = \beta_0 + \beta_1 Royal\_own_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

$$AQ_i = \beta_0 + \beta_1 Royal\_cntrl_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

Logistic regression model:

$$AQa,b,c,d,e,_i = \beta_0 + \beta_1 Royal\_own_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

$$AQa,b,c,d,e,_i = \beta_0 + \beta_1 Royal\_cntrl_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i \quad (3\text{-}16)$$

Model 3-16 tests the alternative hypotheses as follows:

$$H_0: \beta_1 = 0$$

$$H_1: \beta_1 < 0$$

and/or

$$H_0: \beta_2 = 0$$

$$H_1: \beta_2 < 0$$

where, for firm i, $Royal\_own_i$ is royal family ownership, which equals multiplication of the ownership stakes along the pyramid chains, and $Royal\_cntrl_i$ is royal family control, which equals the sum of the weakest links in the pyramid chains.

Hypothesis 5a: Firms adopting Islamic business principles (SSB and Islamic-compliant firms) are more likely to employ a higher quality joint audit.

Ordinal regression model:

$$AQ_i = \beta_0 + \beta_1 Islamic_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

Logistic regression model:

$$AQa,b,c,d,e,_i = \beta_0 + \beta_1 Islamic_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

(3-17)

Model 3-17 tests the alternative hypotheses as follows:

$$H_0: \beta_1 = 0$$

$$H_1: \beta_1 > 0$$

where, for firm i, $Islamic_i$ is equal to one if firm i is Islamic or Islamic compliant according to the KFH 2011 list, and zero otherwise.

Hypothesis 5b: Among companies adopting Islamic business principles, firms with an SSB are more likely to employ a higher quality joint audit.

Ordinal regression model:

$$AQ_i = \beta_0 + \beta_1 SSB_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

Logistic regression model:

$$AQa,b,c,d,e,_i = \beta_0 + \beta_1 SSB_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i \quad (3\text{-}18)$$

Model 3-18 tests the alternative hypotheses as follows:

$$H_0: \beta_1 = 0$$

$$H_1: \beta_1 > 0$$

where, for firm i, SSB_i is equal to one if the Islamic or Islamic-compliant firm i has an SSB, and zero otherwise.

Hypothesis 6 proposes a positive relationship between joint audit quality and FRQ. However, joint audit quality is an intermediary channel between corporate governance and FRQ. It is relevant to note that the existing accounting literature does not make this distinction. For instance, the existing literature proposes a direct relationship between corporate governance and FRQ in the absence of the intervening effect of audit quality (Fan & Wong, 2002; Velury & Jenkins, 2006; Wang, 2006). Further, different studies often include audit quality measures as part of the corporate governance structure in OLS regression models (Lin & Hwang, 2010). Other studies examine the effect of audit quality on FRQ as an independent variable (Francis & Wang, 2008; Krishnain, 2003; Srinidhi & Gul, 2007).

However, the FRQ drivers model developed in this thesis proposes that a firm's corporate governance structure affects FRQ via the quality of the joint audit. Therefore, using the audit quality's effect on FRQ separate to governance structure, as adopted in the existing literature, may lead to misleading results because of endogeneity. To overcome the problem of endogeneity, this thesis uses the more appropriate method of estimation, commonly known as the two-stage least-squares (2SLS) regression model to examine the effect of joint audit quality on FRQ. In the first stage of the 2SLS, Equation 3-19 is used to determine the estimated joint audit quality. In the second stage, the estimated joint audit quality is used as an independent variable to determine the effect of chosen joint audit quality on FRQ:

$$AQ_i = \beta_0 + \beta_1 Instit\_own_i + \beta_2 Gov\_own_i + \beta_3\ Family\_cntrl_i + \beta_4 Royal\_cntrl_i + \beta_5\ Islamic_i + \beta_6 Size_i + \beta_7 AuditComm_i + \beta_8 Complex_i + \beta_9 ROA_i + \beta_{10} CEO\_involve_i + \beta_{11} Leverage_i + \beta_{12} Industry_i + \varepsilon_i$$

(3-19)

Hypothesis 6a: Higher external joint audit quality is negatively associated with earnings management.

$$Accrl_i = \beta_0 + \beta_1 \widehat{AQ}_i + \beta_2\ Size_i + \beta_3\ AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\ CEO\_involve_i + \beta_7\ Leverage_i + \beta_8\ Industry_i + \varepsilon_i$$

(3.20)

$$AWCAcc_i = \beta_0 + \beta_1 \widehat{AQ}_i + \beta_2\ Size_i + \beta_3\ AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\ CEO\_involve_i + \beta_7\ Leverage_i + \beta_8\ Industry_i + \varepsilon_i$$

(3.21)

Hypothesis 6b: Higher external joint audit quality is negatively associated with restatement.

$$Restate_i = \beta_0 + \beta_1 AQ_i + \beta_2 Size_i + \beta_3\ AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\ CEO\_involve_i + \beta_7\ Industry_i + \varepsilon_i$$

$$Restate_i = \beta_0 + \beta_1 AQa, b, c, d, e_i + \beta_2 Size_i + \beta_3\ AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\ CEO\_involve_i + \beta_7\ Industry_i + \varepsilon_i$$

(3.22)

To test the impact of chosen audit quality on restatements this thesis uses audit quality instead of estimated audit quality. Consistent with prior literature (Francis et al., 2013a, Palmrose & Scholz, 2000, 2004) this procedure is employed in the current thesis because of the limitation on the availability of data and number of restatements. Number of restatements in 2012 is only 11 restatements therefore, to test hypothesis 6b the thesis uses all firms' restatements from year 2005 to year 2012 and collects audit quality information for restated and non-restated firms for the same period. The data of governance structure (ownership) for previous years are not available in Kuwait which but limitation on obtaining estimated audit quality.

3.8.3 SENSITIVITY ANALYSIS

This thesis uses the alternative measures of ownership structure and FRQ to test the relationship in the FRQ drivers model to assess the robustness of the findings. Different alternative measures have been developed in the previous sections for the four types of ownership (institutional, governmental, family and royal family ownership) and FRQ.

3.9 SUMMARY

This chapter has described the empirical methods used to test the relationship in the FRQ drivers model depicted in Chapter 2. This chapter also detailed the sample used to test the hypotheses, as well as the data collection process. This chapter has presented the measures used to construct the regressions models that test the relationships between corporate governance (ownership structure and Islamic business principle adoption), joint audit quality and the quality of financial reporting hypotheses. The following chapter presents the results of the descriptive analysis detailed in the current chapter.

Chapter 4: Descriptive Analysis

4.1 INTRODUCTION

This chapter provides a descriptive analysis of the summary statistics for the dependent, independent, intervening and control variables. This chapter also presents the correlation analysis results, which provide a preliminary description of the interaction variables in a bivariate setting. The remainder of the chapter is as follows. Section 4.2 describes the study's sample frame. Section 4.3 outlines the descriptive analysis of the ownership variables and describes the firms that have adopted Islamic business principles. Section 4.4 provides a description of the intervening variable audit quality. Section 4.5 outlines a descriptive analysis of the FRQ variables. Section 4.6 presents a description of the control variables. Section 4.7 introduces the correlation analysis results, and Section 4.8 presents the chapter summary.

4.2 SAMPLE FRAME

As outlined in Chapter 3, the sample frame of this research consists of all KSE listed firms with a 31 December 2012 balance date. Due to the study's focus on how listed firms choose audit pairs, banks are excluded from the sample frame. This is because banks are required by the Central Bank of Kuwait to have audit pairs of two Big N auditors; thus, there is no choice involved. A summary of the sample details is provided in Table 4-1.

Table 4-1 Sample Frame

Sample details	Excluded firms	Final sample
All listed firms		209
Less:		
Banks	9	
Main sample		200
Less:		
Financial firms	60	
Firms with fewer than five years of data	23	
Sub-sample		117

The second stage of analysis requires the inclusion of accruals quality, *Accrul*, to determine the relationship between chosen audit pairs and FRQ. Due to the specific nature of the calculation required to obtain *Accrul*, 60 firms in the financial sector are not included in the sample because the financial reporting practices of financial firms are different due to their specific reporting criteria (Algharaballi, 2013). Moreover, as the calculation of *Accrul* requires five years of data for each company, 23 firms are excluded. Thus, the study's sub-sample is comprised of the 117 companies with the required information.

4.3 CORPORATE GOVERNANCE VARIABLES

This section presents summary statistics for the corporate governance variables (as depicted in Figure 3-1). For the purposes of this thesis, a descriptive analysis of four ownership variables (institutional, government, family and royal family) and Islamic and Islamic-compliant firms is presented.

4.3.1 INSTITUTIONAL OWNERSHIP

Institutional ownership is investigated by analysing the variable *Instit_own*, which is measured as shares owned by institutions (banks, insurance, mutual funds and foreign investors) divided by total shares outstanding. Table 4-2 provides the summary statistics for *Instit_own* for all companies in the sample (Panel A) and by industry sector (Panel B).

Table 4-2 Summary Statistics for Institutional Ownership

Panel A: Institutional ownership									
	Variable	**N**	**Min**	**Q1**	**Median**	**Q3**	**Max**	**Mean**	**Stdev.**
All companies	*Instit_own*	200	0.00	0.00	0.00	9.11	95.76	8.63	17.96
Panel B: Institutional ownership by KSE sectors									
Market sector	**Variable**	**N**	**Min**	**Q1**	**Median**	**Q3**	**Max**	**Mean**	**Stdev.**
Financial	*Instit_own*	60	0.00	0.00	0.00	19.45	95.23	12.86	22.48
Real estate	*Instit_own*	43	0.00	0.00	0.00	11.15	55.92	7.14	12.38
Industry	*Instit_own*	36	0.00	0.00	0.00	0.00	51.00	3.60	10.80
Service	*Instit_own*	61	0.00	0.00	0.00	9.10	95.76	8.47	19.04

Note:
$Instit\_own_i$ = percentage of shares owned by institutions
N = number of companies in the sample.

Panel A in Table 4-2 provides the range, mean, median, standard deviation and Q1 and Q3 percentile of the institutional investor ownership (*Instit_own*). *Instit_own* has a mean of 8.63% and a median of zero, with a range from 0 to 95.8% and standard deviation of 17.9. The Q1 and Q3 percentiles values are at zero and 9.1, respectively. These results are driven by the fact that institution ownership is present in only 70 (34.5%) firms in the sample, while the rest of the firms have zero institutional ownership. Therefore, the data of *Instit_own* have positive skewness.

The mean of *Instit_own* is significantly less than the results of other Kuwaiti studies. The *Instit_own* mean of non-financial firms in Al-Saidi (2010) is 44%, in Alfaraih et al. (2012) is 55% and in Al-Shammari et al. (2008) is 36%. The main reason for these contradicting results is the definition of 'institutional investor'. This thesis considers institutional investors in Kuwait as entities investing on behalf of others, and includes only four types of institutional investors: banks, insurance companies, mutual funds and foreign investors. While Al-Saidi (2010) and Alfaraih et al. (2012) do not provide a specific definition of institutional investors in Kuwait, Al-Shammari et al. (2008) define them as any major shareholder other than individuals and government. Therefore, they included all private and public companies investing in listed firms as institutional investors.

Looking at these results in comparison to those in other developing and developed countries, Zureigat (2011) finds that the institutional ownership mean in Jordan is 39%, and Abdul Wahab et al. (2007) finds it to be 12.6% in Malaysia. In the US, Chung et al. (2002) find it to be 25%, and Velury and Jenkins (2006) find it to be 45%. Panel B in Table 4-2 shows the descriptive statistics of institutional ownership within market sectors. The *Instit_own* mean for companies in the financial sector is 12.86%, while in the real estate, industrial and service sectors, the means are 7.14, 3.60 and 8.47%, respectively. These results suggest that institutional investors believe the financial sector in Kuwait has more potential to grow and profit in both the short and long term.

Panel A in Table 4-3 shows the summary statistics for the *Instit_own* variable, only for firms with institutional investor ownership. The table demonstrates that for 70 (35%) listed firms with institutional investor ownership, the mean (median) is 24.64% (17.82%), with a range from 5% to 95.76%. Q1 and Q3 are 7.67% and 30.16%, respectively. This indicates that institutional investors tend be a major owner of the firms in which they invest, which drives their ability to control and manipulate the

decision-making process by nominating and electing the members of the board of directors. In Kuwaiti listed firms, boards of directors are elected by the votes of owners. Panel B in Table 4-3 shows that the mean of *Instit_own* varies among market sectors. The financial and service sectors have higher means (medians) of *Instit_own* of 30.87% (20.88%) and 23.5% (14.02%), respectively, while the means (medians) of *Instit_own* for the real estate and industry sectors are 19.18% (17.7%) and 18.53% (7.77%), respectively.

Table 4-3 Summary Statistics for Institutional Ownership Only for Firms with Institutional Ownership

Panel A: Institutional ownership									
Market sector	**Variable**	**N**	**Min**	**Q1**	**Median**	**Q3**	**Max**	**Mean**	**Stdev.**
All companies	*Instit_own*	70	5.00	7.67	17.82	30.16	95.76	24.64	23.00
Panel B: Institutional ownership by KSE sectors									
Market sector	**Variable**	**N**	**Min**	**Q1**	**Median**	**Q3**	**Max**	**Mean**	**Stdev.**
Financial	*Instit_own*	25	5.04	12.88	20.46	39.51	98.23	30.87	25.74
Real estate	*Instit_own*	16	5.01	7.90	17.70	26.93	55.92	19.18	17.70
Industry	*Instit_own*	7	5.05	5.11	7.77	39.21	51.00	18.53	18.90
Service	*Instit_own*	22	5.00	7.24	14.02	30.06	95.76	23.49	25.80

Note:
$Instit\_own_i$ = percentage of shares owned by institutions
N = number of companies in the sample.

The *Instit_own* variable is an aggregate measure that includes four types of institutional investors: banks, insurance companies, mutual funds and foreign investors. As discussed in Section 2.5.1, institutional investors are not expected to be homogenous in their behaviour of monitoring and disciplining the management of investee firms (Farrar, 2008). Therefore, the variable *Instit_own* is disaggregated into two variables: *Active_instit* and *Passive_instit. Active_instit* represents the percentage of foreign and mutual ownership, while *Passive_instit* represents the percentage of bank and insurance company ownership. Table 4-4 provides the summary statistics for the two categories of institutions for firms with institutional owners.

Table 4-4 Summary Statistics for Active and Passive Institutional Ownership

Panel A: Active and passive institutional ownership									
Market sector	**Variable**	**N**	**Min**	**Q1**	**Median**	**Q3**	**Max**	**Mean**	**Stdev.**
All companies	*Active_instit*	70	0.00	0.00	6.85	19.99	95.23	13.37	19.12
	Passive_instit	70	0.00	0.00	2.50	12.96	95.76	11.27	18.97
Panel B: Active and passive institutional ownership by KSE sectors									
Market sector	**Variable**	**N**	**Min**	**Q1**	**Median**	**Q3**	**Max**	**Mean**	**Stdev.**
Financial	*Active_instit*	25	0.00	0.00	7.45	24.57	95.23	16.64	22.92
	Passive_instit	25	0.00	0.00	6.50	26.00	77.00	14.23	19.42
Real estate	*Active_instit*	16	0.00	0.00	5.06	19.02	25.42	8.29	9.60
	Passive_instit	16	0.00	0.00	6.61	17.29	55.92	10.90	14.98
Industry	*Active_instit*	7	0.00	5.05	5.12	16.47	51.00	12.93	17.51
	Passive_instit	7	0.00	0.00	0.00	0.00	39.21	5.60	14.82
Service	*Active_instit*	22	0.00	0.00	8.24	15.87	92.11	13.50	20.38
	Passive_instit	22	0.00	0.00	0.00	9.33	95.76	9.99	22.47

Note:
$Active\_instit_i$ = percentage of shares owned by mutual funds and foreign investors
$Passive\_instit_i$ = percentage of shares owned by banks and insurance companies
N = number of companies in the sample.

Panel A in Table 4-4 shows that, for firms with institutional ownership, the mean (median) of *Active_instit* is 13.37% (6.85%), while the mean (median) of *Passive_instit* is 11.27% (2.5%). In other studies, Francis et al. (2009) report that, in France, the means of bank and international investor ownership are 4.76% and 8.52%, respectively. In the US, Ozer, Alakent and Ahsan (2010) find that the means for banks and insurance companies ownership are 4.96% and 2.09%, respectively. Panel B in Table 4-4 shows that, in the financial, industry and service sectors, the mean (median) of *Active_instit* is higher than the mean (median) of *Passive_instit*. This indicates that mutual funds and foreign owners tend to increase their ownership stake in the firms in which they invest to ensure their ability to influence the decision-making process.

4.3.2 GOVERNMENT OWNERSHIP

Government ownership (*Govt_own)* is measured as the shares owned by government agencies divided by the total shares outstanding. Table 4-5 provides the summary statistics for *Govt_own* for all companies in the sample, as well as by market sector.

Table 4-5 Summary Statistics for Government Ownership

Panel A: Government ownership									
	Variable	**N**	**Min**	**Q1**	**Median**	**Q3**	**Max**	**Mean**	**Stdev.**
All companies	*Govt_own*	200	0.00	0.00	0.00	0.00	76.19	3.63	10.58
Panel B: Government ownership by KSE sectors									
Market sector	**Variable**	**N**	**Min**	**Q1**	**Median**	**Q3**	**Max**	**Mean**	**Stdev.**
Financial	*Govt_own*	60	0.00	0.00	0.00	0.00	76.19	3.95	11.58
Real estate	*Govt_own*	43	0.00	0.00	0.00	0.00	40.00	2.04	6.08
Industry	*Govt_own*	36	0.00	0.00	0.00	3.83	61.77	4.28	11.67
Service	*Govt_own*	61	0.00	0.00	0.00	0.00	68.50	4.07	11.19

Note:
$Govt\_own_i$ = percentage of shares owned by government agencies (shares owned by government agencies divided by total shares outstanding)
N = number of companies.

Table 4-5 shows that *Govt_own* for all companies ranges from 0% to 76.19%, while the *Govt_own* mean is 3.64%. This result can be explained by the number (%) of listed firms with governmental ownership. The total number of firms with government ownership is 39 (19.5%) of the 200 sample firms. It is important to consider that, in the late 1990s, the Kuwaiti government underwent a privatisation process. To do this, government agencies used a variety methods, such as auctions, initial public offerings and direct sales to existing shareholders to sell pre-owned shares (Al-Rifai, 2006). The holdings of the KIA—a major governmental investment arm—declined from 61 companies in 1993 to only 14 in January 2011 (Sartawi, 2012). Overall, the Kuwaiti government ownership in the public sector is considered the lowest among GCC countries (KAMCO, 2012) and some Middle Eastern countries, such as Egypt and Morocco (OECD, 2012). Government ownership is present in other parts of the world. Borisova et al. (2012) find that, in 14 European Union countries, the mean of government ownership is 8.38%. In France, the government ownership mean is 0.48% (Francis et al., 2009). In the Turkish market, Gursoy and Aydogan (2002) report the government ownership mean to be 7.6%.

Panel B in Table 4-5 shows *Govt_own* in market sectors. The mean of *Govt_own* for the service (4.07%) and industry (4.28%) sectors is higher than the financial (3.95%) and real estate (2.05%) sectors. This is because the industry and service sectors are capital and labour intensive; thus, the government invests more in these sectors to ensure the stability and continuity of operations and to achieve its social and political objectives, as discussed in Chapter 2.

To achieve greater insight to government ownership, Panel A in Table 4-6 reports the descriptive statistics for 39 firms with government ownership. With a range from 5.10% to 76.19%, the *Govt_own* mean (median) is 18.66% (10%). The Q1 and Q3 percentiles values are 10% and 24%, respectively. Panel B in Table 4-6 shows that, for firms with government ownership, the mean (median) for service sectors is highest at 22.58% (20.27), with a range from 5.79% to 68.5%, followed by the financial sector at 18.25% (10%), with a range from 5.15% to 76.29%. The mean (median) of *Govt_own* in the real estate sector is the lowest, at 14.66% (10%), with a range from 5.15% to 40.66%.

Table 4-6 Summary Statistics for Government Ownership Only for Firms with Government Ownership

Panel A: Government ownership									
Market sector	**Variable**	**N**	**Min**	**Q1**	**Median**	**Q3**	**Max**	**Mean**	**Stdev.**
All companies	*Govt_own*	39	5.1	7.36	10	24	76.19	18.66	17.03
Panel B: Government ownership by KSE sectors									
Market sector	**Variable**	**N**	**Min**	**Q1**	**Median**	**Q3**	**Max**	**Mean**	**Stdev.**
Financial	*Govt_own*	13	5.15	7.37	10.00	20.30	76.19	18.25	19.41
Real estate	*Govt_own*	6	5.11	6.15	10.00	22.29	40.00	14.66	13.01
Industry	*Govt_own*	9	5.10	5.82	7.76	25.22	61.77	17.11	18.68
Service	*Govt_own*	11	5.79	10	20.27	24.6	68.5	22.58	17.06

Note:
$Govt\_own_i$ = percentage of shares owned by government agencies (shares owned by government agencies divided by total shares outstanding)
N = number of companies.

4.3.3 FAMILY OWNERSHIP

Family ownership is captured by two variables: family ownership (*Family_own*) and family control (*Family_cntrl*). This distinction between family ownership and control is made because of the pyramidal ownership structure used by families, as discussed in Chapter 3. The variable *Family_own* is measured by the multiplication of ownership stakes along pyramid ownership chains, while the variable *Family_cntrl* is measured by the sum of the weakest links in the pyramid ownerships chains (as discussed in Section 3.4.3). Table 4-7 provides the summary statistics for *Family_own* and *Family_cntrl*, as well as for the market sectors.

Table 4-7 Summary Statistics for Family Ownership and Control

Panel A: Family ownership and control.									
Market sector	**Variable**	**N**	**Min**	**Q1**	**Median**	**Q3**	**Max**	**Mean**	**Stdev.**
All companies	*Family_own*	200	0.00	0.00	13.75	33.20	89.93	19.74	21.92
	Family_cntrl	200	0.00	0.00	18.13	40.41	97.55	23.74	25.01
Panel B: Family ownership and control by KSE sectors.									
	Variable	**N**	**Min**	**Q1**	**Median**	**Q3**	**Max**	**Mean**	**Stdev.**
Financial	*Family_own*	60	0.00	0.00	5.66	18.61	76.68	15.56	22.21
	Family_cntrl	60	0.00	0.00	10.73	26.81	97.55	21.31	28.67
Real estate	*Family_own*	43	0.00	0.00	18.50	30.52	59.95	18.95	17.63
	Family_cntrl	43	0.00	0.00	23.16	34.69	87.50	22.22	20.70
Industry	*Family_own*	36	0.00	0.00	10.52	26.14	66.80	16.99	19.65
	Family_cntrl	36	0.00	0.00	17.57	30.76	66.80	19.36	19.32
Service	*Family_own*	61	0.00	0.00	19.88	44.37	89.93	26.00	24.54
	Family_cntrl	61	0.00	0.00	26.00	47.45	93.50	29.79	26.28

Note:
$Family\_own_i$ = multiplication of ownership stakes along the pyramid chains
$Family\_cntrl_i$ = sum of the weakest links in the pyramid chains
N = number of companies.

For all companies in the sample, the mean (median) of *Family_own* is 19.74% (13.75%), with a range from 0% to 89.93%, while the mean (median) for *Family_cntrl* is 23.74% (18.13%), with a range from 0% to 97.55%. These results indicate that Kuwaiti families own and control a valuable stake of total market capitalisation. Moreover, the mean of *Family_cntrl* is higher than the mean of *Family_own* by 4%, which reveals the effect of pyramidal ownership structure in increasing families' control of listed firms without the need to increase their ownership stake.

Concerning the market sectors, the *Family_own* and *Family_cntrl* means (medians) in the financial sector are 15.56% (5.66%) and 21.31% (10.73%), respectively. In the real estate sector, the *Family_own* and *Family_cntrl* means (median) are 18.95% (18.50%) and 22.22% (23.16%), respectively. In the industry sector, the *Family_own* and *Family_cntrl* means (medians) are 16.99% (10.52%) and 19.36% (17.57%), respectively, while, in the service sector, the *Family_own* and *Family_cntrl* means (medians) are 26% (19.88%) and 29.79% (26%), respectively. These results reveal that the pyramidal ownership structure is used more in the financial sector than other sectors. Families are interested in controlling more financial companies because of their interconnectedness with banks and other real economy sectors. Moreover, in recent years, the financial sector in Kuwait has witnessed rapid growth. This growth is facilitated by a low capital requirement (only KD 15 [US$45 million]), segmentation of licensing and oversight responsibilities (the MCI grants licences, while the Central Bank

of Kuwait provides the oversight responsibilities) and lack of clear standards for regulation and supervision for financial companies (IMF, 2010).

Family ownership of public companies is common practice in different parts of the world; for example, it is common in several Asian countries (Claessens et al., 2000). For nine Asian countries, Claessens et al. (2000) find that, on average, families own 15.70% of cash flow rights and 19.77% of voting rights. Among those nine countries, Japan has the lowest family ownership of cash flow rights (6.9%) and voting rights (10.33%), while Thailand has the highest family ownership of cash flow rights (32.84%) and voting rights (35.25%). In the US, Ali, Chen and Redhakrishnan (2007) report that, for Standard and Poor's 500 firms, family members own 11% of cash flow rights and 18% of voting rights in family firms.

Panel A in Table 4-8 shows that family ownership is present in 131 (65.5%) of the firms in the sample. This indicates that family ownership is the biggest ownership type in the Kuwait market. In firms with family ownership, the means of *Family_own* and *Family_cntrl* are 30.13% and 36.25%, respectively. This reflects the high ownership stakes that families obtain to ensure they have control over the firms in which they invest. Panel B in Table 4-8 shows that, in all market sectors, there is a mean difference between *Family_own* and *Family_cntrl*, where, through the pyramidal ownership structure, families tend to exercise more control (voting rights) than their ownership stake (cash flow rights). This mean difference is more recognisable in the financial sector than in other market sectors.

Table 4-8 Summary Statistics for Family Ownership and Control Only for Firms with Family Ownership

Panel A: Family ownership and control									
Market sector	**Variable**	**N**	**Min**	**Q1**	**Median**	**Q3**	**Max**	**Mean**	**Stdev.**
All companies	*Family_own*	131	0.75	14.00	25.10	44.40	89.93	30.13	20.49
	Family_cntrl	131	5.08	18.75	32.06	51.00	97.55	36.25	22.37
Panel B: Family ownership and control by KSE sectors									
Market sector	**Variable**	**N**	**Min**	**Q1**	**Median**	**Q3**	**Max**	**Mean**	**Stdev.**
Financial	*Family_own*	34	0.75	8.33	17.74	50.05	76.68	27.46	23.36
	Family_cntrl	34	5.11	15.47	19.68	67.65	97.55	37.60	28.97
Real estate	*Family_own*	29	5.10	17.88	27.20	35.94	59.95	28.11	14.14
	Family_cntrl	29	5.10	22.93	30.52	40.49	87.50	32.96	16.64
Industry	*Family_own*	24	2.65	10.31	23.25	40.02	66.80	25.49	19.02
	Family_cntrl	24	7.46	16.70	24.06	40.02	66.80	29.05	16.57
Service	*Family_own*	44	5.08	16.46	36.31	51.33	89.93	36.05	21.68
	Family_cntrl	44	5.08	20.10	40.88	56.59	93.50	41.31	21.86

Note:
$Family\_own_i$ = multiplication of ownership stakes along the pyramid chains
$Family\_cntrl_i$ = sum of the weakest links in the pyramid chains
N = number of companies.

4.3.4 ROYAL FAMILY OWNERSHIP

To capture the effect of royal family involvement, two variables are used: royal family ownership (*Royal_own*) and royal family control (*Royal_cntrl*). The variable *Royal_own* is measured by the multiplication of ownership stakes along the pyramid ownership chains, while the variable *Royal_cntrl* is measured by the sum of the weakest links in the pyramid ownerships chains. Table 4-9 provides the summary statistics for *Royal_own* and *Royal_cntrl* for the sample firms, as well as by industry sector.

Table 4-9 Summary Statistics for Royal Family Ownership and Control

Panel A: Royal family ownership and control									
Market sector	**Variable**	**N**	**Min**	**Q1**	**Median**	**Q3**	**Max**	**Mean**	**Stdev.**
All companies	*Royal_own*	200	0	0	0	0	77.83	3.96	12.86
	Royal_cntrl	200	0	0	0	0	78.24	4.95	15.85
Panel B: Royal family ownership and control by KSE sectors									
	Variable	**N**	**Min**	**Q1**	**Median**	**Q3**	**Max**	**Mean**	**Stdev.**
Financial	*Royal_own*	60	0	0	0	0	0	5.02	16.03
	Royal_cntrl	60	0	0	0	0	0	5.68	17.66
Real estate	*Royal_own*	43	0	0	0	0	0	4.96	15.15
	Royal_cntrl	43	0	0	0	0	0	5.73	17.84
Industry	*Royal_own*	36	0	0	0	0	0	5.34	12.54
	Royal_cntrl	36	0	0	0	0	0	6.64	16.53
Service	*Royal_own*	61	0	0	0	0	0	1.38	5.8
	Royal_cntrl	61	0	0	0	0	0	2.67	11.71

Note:
$Royal\_own_i$ = multiplication of ownership stakes along the pyramid chains
$Royal\_cntrl_i$ = sum of the weakest links in the pyramid chains
N = number of companies in the sample.

The mean for *Royal_own* is 3.96%, with a range from 0% to 77.83%, while the mean for *Royal_cntrl* is 4.95%, with a range from 0% to 78.24%. This result reflects the limited number of listed firms with royal family investment (22 of 200 companies in the sample). Moreover, Table 4-9 reveals that, among the four industries, the royal family is the least interested in investing in the service sector.

Panel A in Table 4-10 presents the statistics descriptive of firms with royal family ownership. The royal family invests in 22 (11%) of listed firms with highly concentrated ownership and control. The means (medians) of $Royal\_own_i$ and $Royal\_cntrl_i$ are 35.99% (37.89%) and 45.02% (44.42%), respectively, with a range from 9.19% to 77.83% of ownership and 9.19% to 78.24% of control. The difference between the means of royal family ownership and control indicates that the royal family employs a pyramidal ownership structure to improve their control of the firms in which they invest. Panel B in Table 4-10 shows the breakdown of firms with royal family ownership, according to market sector. The high level of means of *Royal_own* and *Royal_cntrl* shows the concentration of royal family ownership. This concentration is present more in the financial and real estate sectors, followed by the service and industry sectors.

Table 4-10 Summary Statistics for Royal Family Ownership and Control Only for Firms with Royal Family Ownership

Panel A: Royal family ownership and control									
	Variable	**N**	**Min**	**Q1**	**Median**	**Q3**	**Max**	**Mean**	**Stdev.**
All companies	*Royal_own*	22	9.19	17.49	37.89	46.05	77.83	35.99	18.97
	Royal_cntrl	22	9.19	26.07	44.42	62.85	78.24	45.02	22.23
Panel B: Royal family ownership and control by KSE sectors.									
Market sector	**Variable**	**N**	**Min**	**Q1**	**Median**	**Q3**	**Max**	**Mean**	**Stdev.**
Financial	*Royal_own*	6	29.64	36.59	46.28	66.60	77.83	50.30	17.35
	Royal_cntrl	6	38.90	44.98	57.29	66.60	77.83	56.86	13.75
Real estate	*Royal_own*	5	14.58	27.44	40.43	59.06	70.04	42.68	19.96
	Royal_cntrl	5	14.58	27.51	43.11	74.32	78.24	49.35	25.52
Industry	*Royal_own*	7	9.19	11.25	32.49	39.66	45.73	27.48	14.44
	Royal_cntrl	7	9.19	11.25	32.49	59.24	62.85	34.17	22.30
Service	*Royal_own*	4	13.12	13.42	17.15	32.66	36.88	21.07	10.96
	Royal_cntrl	4	19.99	22.02	32.49	67.90	78.24	40.80	25.90

Note:

Royal_own$_i$ = multiplication of ownership stakes along the pyramid chains

Royal_cntrl$_i$ = sum of the weakest links in the pyramid chains

N = number of companies in the sample.

4.3.5 ISLAMIC BUSINESS PRINCIPLE ADOPTION

This thesis uses two variables to capture firms that adopt Islamic business principles: Islamic firms (*Islamic*) and Islamic firms with an SSB (*SSB*). The variable *Islamic*$_i$ has a value of one if a listed firm is Islamic compliant according to the KFH 2012 list, while the variable *SSB*$_i$ has a value of one if the Islamic firm has an SSB, and zero otherwise. The study sample reveals that Islamic firms represent about 69% of the total sample firms, while SSB firms represent only 31%. Considering that the variable *Islamic* includes SSB firms, only 76 firms in the sample are Islamic compliant (38% of the total sample). This leaves only 62 non-Islamic firms (31%), as summarised in Table 4-11.

Table 4-11 Summary of Frequencies for Islamic and SSB Firms

Market/ sector	**No.**	**SSB**	**Islamic compliant**	**Islamic**	**Non-Islamic**
All companies	200	62	76	138	62
Financial	60	24	1	25	35
Real estate	43	16	18	34	9
Industry	36	6	24	30	6
Service	61	16	33	49	12

Note:

SSB$_i$ = firms with an SSB

Islamic compliant = firms meet the requirement of KFH, *Islamic*$_i$ = total SSB and Islamic-compliant firms

Non-Islamic firms = conventional firms that do not meet KFH requirement to be classified as Islamic compliant.

The number of Islamic firms in the sample indicates that more firms are willing to comply with Islamic business principles. This reflects the culture and religion of the people in Kuwait. Moreover, by implementing Islamic business principles, firms increase the number of people who can invest in and trade the firm's shares, thereby leading to greater share-trading activity.

Table 4-11 shows that, of the 60 firms in the financial sector, 25 (42%) are Islamic. Of the Islamic financial firms, only one (4%) firm is Islamic compliant, while the remaining 24 (96%) have an SSB. This indicates that firms in the financial sector either have a higher level of compliance with Islamic regulations by having an SSB as part of their organisational structure, or are non-Islamic (conventional) firms. This result is expected because Islamic financial institutions are required by capital providers to be strict in applying Islamic business regulations (Archer et al., 1998; Rammal, 2006). Most capital providers, shareholders and investors of financial institutions are extremely concerned that their investments are invested in a sharia-compliant manner (Chapra & Ahamd, 2002; Safieddine, 2009). Thus, financial institutions adopting Islamic principles use an SSB to ensure they have a high level of compliance with Islamic regulations. Having an SSB also signals this high level of compliance to the market (Hasan, 2009) and distinguishes these firms from conventional financial companies.

In the real estate, industry and service sectors, firms are more flexible in their compliance with Islamic regulations. In these sectors, the percentage of Islamic firms is 79, 83 and 80% of the firms in the sector, respectively. However, the SSB presence in each sector is much lower: 37% of firms in the real estate sector have an SSB, while 17% and 26% of firms in the industry and service sectors have an SSB, respectively. This indicates that firms in sectors other than the financial sector enjoy the flexibility to be Islamic compliant without incurring the higher costs of having an SSB. Moreover, non-financial firms face less pressure from capital providers to have a high level of compliance with Islamic regulations.

4.4 JOINT AUDIT QUALITY

In this study, the intervening variable is audit quality (AQ_i). Following Hay and Davis (2004), the audit pairs are categorised into six levels of quality, where the highest quality level equals six and the lowest audit quality equals one. Table 4-12 presents the distribution of firms audited by different audit pair combinations.

Table 4-12 Joint Audit Quality

Quality level	Pair combination	Frequency	Percentage
6	Two Big N auditors	4	2
5	One Big N auditor paired with one internationally affiliated auditor	69	35
4	One Big N auditor paired with one local firm auditor	45	23
3	Two internationally affiliated auditors	6	3
2	One internationally affiliated auditor paired with one local auditor	58	29
1	Two local auditors	18	9
	Total	200	100

Note: The Big N audit firms are DT, PricewaterhouseCoopers, EY and KPMG. The internationally affiliated audit firms are RSM, BDO, Grant Thornton, Moore Stephens, Baker Tilly and PKF.

As seen in Table 4-12, approximately 2% of the sample firms have two Big N auditors in their audit pairs, while 35% have one Big N and one internationally affiliated auditor, and 23% have one Big N and one local auditor. These results demonstrate that about 57% of companies are audited by at least one Big N audit firm. Moreover, the table shows that internationally affiliated auditors form part of the audit pair in 3% of companies in the sample, while 29% use local and internationally affiliated auditors. Only 9% of companies in the sample are audited by two local audit firms.

Table 4-13 presents a cross-tabulation of industry sectors and audit pair quality. The table shows that firms in the financial and services sectors are more likely to be audited by audit pairs that include a Big N auditor (*AQ* 4, 5, 6), while 61% of real estate sector companies are audited by audit pairs that do not include Big N audit firms (*AQ* 1, 2, 3). For the industrial sector, about 48% of the companies were audited by an audit pair that contained at least one Big N audit firm.

Table 4-13 Cross-tabulation of Audit Quality and Market Sectors

Market sectors		AQ 1	2	3	4	5	6	Total
All companies	Count	18	58	6	45	69	4	200
	% of total (n = 200)	9	29	3	23	35	2	100
Financial	Count	2	12	3	20	21	2	60
	% in industry sector	3	20	5	33	35	3	100
Real estate	Count	7	17	2	8	8	1	43
	% in industry sector	16	40	5	19	19	2	100
Industrial	Count	4	15	0	6	11	0	36
	% in industry sector	11	42	0	17	31	0	100
Service	Count	5	14	1	11	29	1	61
	% in industry sector	8	23	2	18	48	2	100

As discussed in Chapter 2, a joint audit enables more options of audit quality based on the composition of the audit pair. In Kuwait, external auditors are categorised in three main categories: Big N, internationally affiliated and local auditors. Following the joint audit literature, this thesis uses five different audit pair partitions to reflect the possible combinations of audit pairs:

AQa_i = one if the audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero for all other audit pairs

AQb_i = one if the audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero if the audit pair has one Big N paired and one local auditor

AQc_i = one if the audit pair has at least one Big N auditor, and zero if the audit pair has no Big N auditors

AQd_i = one if the audit pair includes EY and/or DT auditors, and zero if the audit pair has no EY or DT auditors

AQe_i = one if the audit pair has one Big N and one internationally affiliated auditor, and zero if the audit pair has two internationally affiliated auditors or one international and one local firm auditor.

Table 4-14 presents the audit pair partitions distribution among sample firms and market sectors. A total of 73 (37%) use either two Big N auditors or one Big N and one internationally affiliated auditor (*AQa* = 1) and the remaining 127 (64%) use other audit pair partitions. Of these 127 firms, 45 firms (23%) use a Big N auditor paired with a local auditor (*AQb* = 0). This brings the total number of firms with at least one Big N auditor to 118. The remaining 82 firms (41%) use no Big N auditor (*AQc* = 0). Of the 118 firms using at least one Big N auditor, 105 (53%) use EY and/or DT in their audit pairs (*AQd* = 1) and 69 use a Big N auditor paired with an internationally affiliated auditor (*AQe* = 1). Of the total sample firms, only 64 use an audit pair comprising two internationally affiliated auditors or one internationally affiliated and one local firm auditor (*AQe* = 0).

The table also shows that firms audited by higher quality audit pairs (*AQb*, *AQc*, *AQd* and *AQe* = 1) are more likely to be from the financial and service sectors, while firms in the real estate and industrial sectors are more likely to be audited by lower quality audit pairs (*AQa*, *AQc*, *AQd* and *AQe* = 0). In summary, while Big N auditors

are dominant in the Kuwaiti market in terms of total number of clients, internationally affiliated and local audit firms are also well represented. This supports the argument that the joint audit requirement was introduced in Kuwait to open the market and provide more opportunities for non–Big N auditors, leading to a less concentrated audit market, which exists in most single audit regimes.

Table 4-14 Cross-tabulation of Audit Quality Partitions and Market Sectors

Market sectors		AQa			AQb			AQc			AQd			AQe		
		0	**1**	**Total**	**0**	**1**	**Total**	**0**	**1**	**Total**	**0**	**1**	**Total**	**0**	**1**	**Total**
All companies	Count	127	73	200	45	73	118	82	118	200	82	105	187	64	69	133
	% of total (n = 200)	64	37	100	23	37	59	41	59	100	41	53	94	32	35	67
Financial	Count	37	23	60	20	23	43	17	43	60	17	38	55	15	21	36
	% in industry sector	62	38	100	33	38	72	28	72	100	28	63	92	25	35	60
Real estate	Count	34	9	43	8	9	17	26	17	43	26	17	43	19	8	27
	% in industry sector	79	21	100	19	21	40	60	40	100	60	40	100	44	19	63
Industrial	Count	25	11	36	6	11	17	19	17	36	19	15	34	15	11	26
	% in industry sector	69	31	100	17	31	47	53	47	100	53	42	94	42	31	72
Service	Count	31	30	61	11	30	41	20	41	61	20	35	55	15	29	44
	% in industry sector	51	49	100	18	49	67	33	67	100	33	57	90	25	48	72

Note:
AQa_i = one if the audit pair has one Big N auditor or one Big N and one internationally affiliated auditor, and zero otherwise
AQb_i = one if the audit pair has one Big N auditor or one Big N and one internationally affiliated auditor, and zero if the audit pair has one Big N and one local auditor
AQc_i = one if the audit pair has at least one Big N auditor, and zero if the audit pair has no Big N auditor
AQd_i = one if the audit pair includes EY and/or DT, and zero otherwise
AQe_i = one if the audit pair has one Big N and one internationally affiliated auditor, and zero if the audit pair has two internationally affiliated auditors or one international and one local auditor.

4.5 FINANCIAL REPORTING QUALITY

This section presents the summary statistics of the variables that proxy for FRQ. As highlighted in Figure 3-1, this thesis captures two types of FRQ: earnings quality and restatements. To test FRQ in GAAP, two variables are used to capture earnings quality: accruals quality and abnormal working capital accruals. Moreover, the variable financial reporting restatement is used to capture the quality of financial reporting that violates GAAP.

4.5.1 ACCRUALS QUALITY AND ABNORMAL ACCRUALS

Dechow and Dichev's (2002) model is used to determine the accruals quality (*Accrul*), while Defond and Park's (2001) model is used to determine the abnormal working capital accruals (*AWCacc*). Including *Accrul* and *AWCacc* in the analysis results in excluding 60 financial firms and 23 firms that do not have the data needed to calculate *Accrul.* Therefore, the study's sub-sample is composed of 117 firms. Firms in the financial sector are excluded because their accruals structure is qualitatively different from firms in other business sectors (Francis et al., 2009). The summary statistics for FRQ variables are presented in Table 4-15.

Table 4-15 Summary Statistics for FRQ Variables

Panel A: *Accrul* and *AWAacc* for the sub-sample									
	Variable	**No.**	**Min**	**Q1**	**Median**	**Q3**	**Max**	**Mean**	**Stdev.**
All companies	*Accrul*	117	0.16	0.39	0.62	1.06	2.86	0.81	0.57
	AWCacc	117	-1.67	-0.05	-0.004	0.05	1.98	0.01	0.34
Panel B: *Accrul* and *AWCacc* for the sub-sample by market sectors									
Market sector	**Variable**	**N**	**Min**	**Q1**	**Median**	**Q3**	**Max**	**Mean**	**Stdev.**
Real estate	*Accrul*	34	0.18	0.30	0.55	0.84	2.59	0.69	0.54
	AWCacc	34	-0.51	-0.05	-0.004	0.04	1.07	0.007	0.22
Industry	*Accrul*	33	0.16	0.41	0.65	0.95	2.62	0.74	0.52
	AWCacc	33	-0.30	-0.02	0.02	0.06	1.98	0.07	0.35
Service	*Accrul*	50	0.19	0.42	0.78	1.20	2.79	0.94	0.62
	AWCacc	50	-1.67	-0.06	-0.005	0.05	1.75	-0.03	0.39

Note:
Accrul = accruals quality is the standard deviation of the firm-specific accrual estimation error ($\sigma\varepsilon_i$) found in Dechow and Dichev's (2002) model
AWCacc = abnormal working capital accruals in the current year.

Table 4-15 shows that $Accrul_i$ for all companies in the sub-sample has a mean (median) of 0.81 (0.61) and standard deviation of 0.60. The summary statistics for the

service sector show *Accrul* has a mean (median) of 0.092 (0.77), which is higher than the mean for all companies in the sub-sample. Additionally, the mean (median) for *Accrul* in the real estate and industry sectors is 0.73 (0.53) and 0.72 (0.57), respectively, which is lower than the mean (median) for all companies in the sub-sample. The summary statistics for *AWCacc* are represented in Table 4-15. The mean (median) for *AWCacc* in the sub-sample is 0.01 (-0.004), while the mean for standard deviation is 0.33. The means of *AWCacc* for the real estate and service sectors are 0.007 and -0.03, respectively, which is less than the mean of all companies in the sub-sample.

4.5.2 RESTATEMENTS

This thesis uses financial information restatements as a proxy for FRQ. The sample includes 118 firm-year observations for firms that announced restatements in 2005 to 2012. Each restatement company is matched with another company that does not restate its financial statements. The matching firms are the nearest in size, age and industry sector of the restating companies. Table 4-16 reports the descriptive statistics of the characteristics of restating firms and the matching sample of non-restating firms.

Table 4-16 Summary Statistics for Restating and Non-restating Firms

Panel A: Restating firms								
Variable	**No.**	**Min**	**Q1**	**Median**	**Q3**	**Max**	**Mean**	**Stdev.**
Size	118	6.61	7.46	8.00	8.29	9.71	7.93	0.61
Age	118	2.00	7.00	8.50	16.00	28.00	12.28	8.18
ROA	118	-1.95	-0.02	0.03	0.08	0.27	-0.004	0.21
AuditComm	118	0.00	0.00	0.00	1.00	1.00	0.43	0.50
Complex	118	0.00	1.00	3.00	6.00	39.00	5.25	7.01
CEO_involve	118	0.00	0.00	1.00	1.00	1.00	0.56	0.50
Panel B: Non-restating firms								
Variable	**No.**	**Min**	**Q1**	**Median**	**Q3**	**Max**	**Mean**	**Stdev.**
Size	118	6.74	7.55	8.00	8.23	9.74	7.92	0.57
Age	118	2.00	7.00	8.50	15.00	28.00	11.53	7.46
ROA	118	-1.09	-0.04	0.04	0.10	0.27	0.01	0.16
AuditComm	118	0.00	0.00	0.00	1.00	1.00	0.46	0.50
Complex	118	0.00	2.00	5.00	8.50	74.00	6.91	9.42
CEO_involve	118	0.00	0.00	1.00	1.00	1.00	0.63	0.49

Note:
$Size_i$ = log of total assets for firm *i*
Age_i = number of years since firm was listed on the KSE
ROA_i = return on total assets, net income divided by total assets
$AuditComm_i$ = one if firm *i* has an audit committee, and zero otherwise
$Complex_i$= number of firm *i* consolidated subsidiaries
$CEO\_involve_i$ = one if the same individual serves as both CEO and board chair or board member, and zero otherwise.

The mean for the *Size* of restating and non-firms is 7.93, which indicates that there is no difference in size between the two groups. The means of the other variables indicate some differences between the two groups. *Age* is used to measure the number of years since the firm was listed on the KSE. The mean *Age* of restating (non-restating) firms is 12.28 (11.53) years, while 43% (46%) of restating (non-restating) firms have audit committees. Non-restating firms appear to be more complex and profitable than do restating firms. CEO involvement in the board of directors is higher for non-restating firms than for restating firms at 63% and 56%, respectively.

Analysis of variance (ANOVA) is used to formally determine whether there is any statistically significant difference between restating and restating companies. The ANOVA result presented in Table 4-17 shows that the differences of means of the characteristics of restating and non-restating companies are not statistically significant. This indicates that the restating and matching non-restating companies in the sample are similar in their characteristics.

Table 4-17 ANOVA Results for Restating and Non-restating Companies

	Mean			
Variable	Restating	Non-restating	F-statistic	P-value
Size	7.93	7.92	0.02	0.88
Age	11.53	12.28	0.55	0.46
ROA	-0.004	0.01	0.39	0.52
AuditComm	0.43	0.46	0.15	0.70
Complex	5.25	6.91	2.35	0.12
CEO_involve	0.56	0.63	1.12	0.29

4.6 CONTROL VARIABLES

This section investigates the descriptive analysis for control variables used in the analysis. The summary statistics for the control variables across all companies are presented in Table 4-18. For all sample firms, company size (*Size*) is calculated as the natural logarithm of total assets at the end of 2012. *Size* has a mean of 7.83 and standard deviation of 0.58, with a range from 6.30 to 9.86. Profitability (*ROA*) is measured as earnings before interest and tax, divided by total assets. *ROA* has a mean of 0.03 and standard deviation of 0.10, with a range from -0.61 to 0.62. Firms' complexity (*Complex*) is measured by the number of consolidated subsidiaries of a firm. *Complex* has a mean of 5.75 and standard deviation of 8.75, ranging from zero to 74. Firms'

leverage (*Leverage*) is measured by the ratio of total debt to total assets at the end of 2012. *Leverage* has a mean of 0.20 and standard deviation of 0.21, with a range from 0.01 to 0.85.

Table 4-18 summarises the statistics for the control variables across market sectors. It shows that *ROA* varies across market sectors. The mean of *ROA* in the industry sector is 0.05, which is greater than the means reported for *ROA* in other sectors. This indicates that the industry sector is more profitable than other sectors. Moreover, the mean *ROA* for the financial sector is 0.0004, which is the lowest mean reported for *ROA* for any of the sectors. The *Complex* mean for the service sectors is the highest among the market sectors, while the *Complex* mean for the industrial sectors is lowest. This indicates that firms in the service sector present a more complex environment for auditors. The mean for *Leverage* varies across market sectors. The financial and real estate sectors are more leveraged than the industrial and service sectors. This result might be driven by the low *ROA* mean of the financial and real estate sectors. Thus, the industrial and service sectors are more profitable than the financial and real estate sectors, and subsequently require less external financing to finance their expansion projects.

Panel B in Table 4-18 presents the frequency distribution of *AuditComm* and *CEO_involve* for all sample firms, across market sectors. $AuditComm_i$ aims to distinguish firms with and without audit committees in their organisational structure, while $CEO\_involve_i$ aims to examine CEO involvement in the board of directors. The results show that 42% of the sample firms have an audit committee. In Kuwait, corporate governance structures are voluntary and there is no requirement for listed firms to have an audit committee. This result indicates that a number of listed firms use audit committees to signal to the market and shareholders the quality of reported financial information. CEO involvement in the board of directors was present in 54% of sample firms. This reflects the influence of firms' owners, who elect the board of directors and choose the firm CEO to be a board member. Concerning the market sectors, the industry sector has the highest mean for presence of audit committees (47.2%), while the real estate sector has the lowest mean for presence of audit committee (34.9%). The *CEO_involve* mean in the service sector is the highest in the service sector (61%) and the lowest in the financial sector.

Table 4-18 Summary Statistics for the Control Variables by KSE Market Sectors

Panel A: *Size, ROA, Complex, Leverage*

Market sector	Variable	N	Min	Q1	Median	Q3	Max	Mean	Stdev.
All companies	Size	200	6.30	7.38	7.84	8.22	9.86	7.83	0.58
	ROA	200	-0.61	-0.01	0.04	0.07	0.62	0.03	0.10
	Complex	200	0.00	1.00	4.00	7.00	74.00	5.75	8.75
	Leverage	200	0.00	0.01	0.14	0.34	0.85	0.20	0.21
Financial	Size	60	6.92	7.53	7.98	8.26	9.86	7.94	0.56
	ROA	60	-0.61	-0.03	0.01	0.05	0.62	0.0004	0.14
	Complex	60	0.00	2.00	4.50	7.75	73.00	5.95	9.43
	Leverage	60	0.00	0.00	0.16	0.38	0.80	0.22	0.24
Real estate	Size	43	6.66	7.46	7.88	8.23	8.74	7.84	0.51
	ROA	43	-0.21	0.00	0.03	0.06	0.10	0.02	0.06
	Complex	43	0.00	1.00	2.00	9.00	27.00	4.84	5.79
	Leverage	43	0.00	0.00	0.25	0.38	0.85	0.26	0.25
Industrial	Size	36	6.75	7.27	7.66	8.26	9.14	7.75	0.60
	ROA	36	-0.19	0.02	0.06	0.11	0.16	0.05	0.08
	Complex	36	0.00	1.00	2.00	4.00	36.00	4.19	6.68
	Leverage	36	0.00	0.02	0.08	0.29	0.56	0.15	0.16
Service	Size	61	6.30	7.35	7.77	8.06	9.47	7.75	0.61
	ROA	61	-0.39	0.03	0.05	0.09	0.31	0.04	0.10
	Complex	61	0.00	1.00	5.00	8.00	74.00	7.11	10.64
	Leverage	61	0.00	0.03	0.14	0.28	0.61	0.18	0.16

Panel B: Frequency distribution of *AuditComm and CEO_involve*

Market sector	Variable	Frequency	Percentage (N = 200)
All companies	*AuditComm*	84	42
	CEO_involve	108	54
Financial	*AuditComm*	27	45
	CEO_involve	25	43
Real estate	*AuditComm*	17	34
	CEO_involve	25	58
Industrial	*AuditComm*	17	47
	CEO_involve	20	56
Service	*AuditComm*	25	41
	CEO_involve	37	61

Note:
$Size_i$ = natural log of total assets for firm *i*
ROA_i = net income divided by total assets for firm *i*
$Complex_i$ = number of firm *i* subsidiaries
$Leverage_i$ = total debt divided by total assets for firm *i*
$AuditComm_i$ = one if firm *i* has an audit committee, and zero otherwise
$CEO\_involve_i$ = one if a firm's CEO is a board chair and/or board member, and zero otherwise.

4.7 CORRELATION ANALYSIS

The correlation analysis for the independent and control variables is reported for the main sample in Table 4-19 and for the sub-sample in Table 4-20. For the main sample of 200 companies, several variables are correlated with each other; however, the magnitude of correlations is low. The high correlation between *SSB* and *Islamic* (0.449) is expected because the *Islamic* variable is used to capture firms that have adopted Islamic business principles, and the SSB variable is used to determine which firms that have adopted Islamic business principles also have a SSB. Additionally, the degree of correlation between variables in the sub-sample is also low, as reported in Table 4.20. Overall, the low magnitude of correlations among the independent and control variables indicates that multicollinearity is not a problem for the two sample sets.

Table 4-19 Correlation Analysis of Independent and Control Variables for the Main Sample

	Instit_own	Govt_own	Family_ cntrl	Royal_ cntr	SSB	Islamic	Size	AuditComm	ROA	Complex	CEO_involve	Leverage
Instit_own	1.000											
Govt_own	-0.068	1.000										
Family_cntrl	-0.224***	-0.186***	1.000									
Royal_cntr	-0.052	-0.061	-0.267***	1.000								
SSB	0.085	0.020	-0.228***	-0.126**	1.000							
Islamic	0.044	-0.066	-0.135**	-0.069	0.449***	1.000						
Size	0.057	0.088	-0.100	0.088	-0.036	-0.230***	1.000					
AuditComm	0.066	0.179***	-0.142**	0.056	0.021	-0.065	0.248***	1.000				
ROA	0.009	0.087	0.018	0.003	-0.117**	0.118**	0.051	0.044	1.000			
Complex	0.006	-0.025	0.025	0.153**	-0.050	-0.169***	0.444***	0.071	0.011	1.000		
CEO_involve	-0.037	-0.102	0.038	-0.002	-0.032	0.075	-0.113	0.013	-0.031	-0.010	1.000	
Leverage	-0.071	-0.095	-0.016	-0.023	0.099	-0.209***	0.328***	-0.019	-0.065	0.088	0.012	1.000

Note:
***, ** Significant at 1% and 5% two tailed, respectively
N = 200.

Table 4-20 Correlation Analysis of Independent and Control Variables for the Sup-sample

	Instit_own	Gov_own	Family_ cntrl	Royal_ cntr	SSB	Islamic	Size	AuditComm	ROA	Complex	CEO_involve	Leverage
Instit_own	1.000											
Gov_own	-0.105	1.000										
Family_cntrl	-0.191**	-0.162	1.000									
Royal_cntr	-0.054	-0.075	-0.280***	1.000								
SSB	0.118	0.059	-0.274	-0.113	1.000							
Islamic	0.111	-0.058	-0.184	0.008	0.298***	1.000						
Size	0.074	0.036	-0.083	0.019	-0.032	-0.219***	1.000					
AuditComm	0.032	0.150	-0.148	0.045	-0.015	-0.111	0.310***	1.000				
ROA	-0.017	0.122	0.109	0.083	-0.296***	-0.005	0.063	-0.020	1.000			
Complex	0.084	-0.017	0.103	0.000	-0.037	-0.223***	0.398***	0.152	0.032	1.000		
CEO_involve	0.007	-0.099	-0.049	-0.010	-0.008	0.067	-0.119	-0.011	-0.089	0.023	1.000	
Leverage	-0.035	-0.085	-0.012	-0.024	0.114	-0.361***	0.469***	0.077	-0.037	0.173**	-0.072	1.000

Note:
***, ** Significant at 1% and 5% two tailed, respectively
N = 117.

To ensure the lack of multicollinearity among the independent and control variables, this study conducts collinearity diagnostics. As presented in Table 4-21, the variance inflation factors (VIF) are less than four, which indicates that there are no significant multicollinearity issues in the data. The general rule of thumb is that VIFs exceeding four warrant further investigations, while VIFs exceeding 10 are signs of serious multicollinearity requiring correction (O'brien, 2007).

Table 4-21 Variance Inflation Factor for Independent and Control Variables

Variable	Tolerance	VIF
Instit_own	0.900	1.111
Govt_own	0.864	1.158
Family_cntrl	0.751	1.332
Royal_cntr	0.854	1.171
Islamic	0.664	1.506
SSB	0.682	1.466
Size	0.774	1.292
AuditComm	0.889	1.125
ROA	0.928	1.078
Complex	0.765	1.307
CEO_involve	0.962	1.040
Leverage	0.790	1.265

4.8 SUMMARY

This chapter has presented the results from the descriptive analyses. The four types of ownership (institutional, government, family and royal family) are presented in sample firms at different levels of ownership percentage. The results show that 34.5% of the firms in the sample frame have institutional investor ownership, with a mean of 8.63%. The results also show that government ownership is present in 19.5% of the sample firms, with a mean of 3.64%. Additionally, the results indicate that the family and royal family ownership structure is characterised by pyramidal ownership. Family ownership is present in about 65.5% of the sample firms, with a mean of 19.7%. Royal family ownership is present in only 11% of sample firms, with a mean of 3.96%. Moreover, the results show that 69% of the sample firms adopt Islamic business principles and 31% use an SSB in their organisational structure, which reflects the culture and religion of the Kuwaiti people.

The results of the joint audit quality variable show that the three categories of auditors (Big N, internationally affiliated and local auditors) are well presented in

Kuwaiti audit market. Big N audit firms are present in 57% (118) of the audit pairs in the sample firms, while internationally affiliated auditors are present in 66.5% (133) of the audit pairs. Local audit firms are present in 60% (121) of the audit pairs in the sample firms. These results indicate the complexity of the audit pair choices available to Kuwait firms, which has implications for the gradation of audit quality in Kuwait. The following chapter presents the outcomes of the hypotheses developed in this study.

Chapter 5: Results

5.1 INTRODUCTION

This chapter tests the hypotheses developed in Chapter 2 and presents the results of the data analyses described in Chapter 3. As depicted in Figure 3-1, the first stage of the analysis in this research aims to determine the influence of ownership structure and adopting Islamic principles on audit quality. The second stage of the analysis focuses on the effect of the chosen audit quality on FRQ. Sensitivity tests are also applied to examine the results under differing circumstances. The remainder of the chapter is separated into three sections. Section 5.2 presents the results from the hypotheses tests for corporate governance and joint audit quality, while Section 5.3 presents the results from the hypotheses tests for FRQ. Section 5.4 reports the results of the sensitivity analysis, while Section 5.5 summarises the results discussed in this chapter.

5.2 CORPORATE GOVERNANCE AND JOINT AUDIT QUALITY

In the first stage of analysis, the corporate governance dimensions, ownership structure and adoption of Islamic business principles are tested to determine their effect on the chosen audit quality of Kuwait listed firms. Ownership structure includes four types of owners: institutional, government, family and royal family. The results of the first stage analyses are presented in the following subsections.

5.2.1 INSTITUTIONAL OWNERSHIP

Hypothesis 1 focuses on the relationship between institutional ownership and audit quality. This hypothesis is partitioned into three sub-hypotheses. Hypothesis 1a states that companies with greater institutional owners are more likely to employ higher quality audit firms, while Hypothesis 1b and 1c distinguishes between active and passive institutional investors. Hypothesis 1b posits that companies with greater bank and insurance company ownership are less likely to employ a higher quality joint audit. Hypothesis 1c states that companies with greater mutual fund and foreign investor ownership are more likely to employ a higher quality joint audit. The ordinal and

logistic regression models of the relationship between institutional ownership and joint audit quality are presented in Table 5-1.

Table 5-1 Ordinal and Logistic Regression for Joint Audit Quality and Institutional Ownership

Ordinal regression model:
$AQ_i = \beta_0 + \beta_1 Instit\_own_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$

Logit regression model: $AQa, b, c, d, e_{,i} = \beta_0 + \beta_1 Instit\_own_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$

Variables	Column (1) *AQ (Estimate)*	Column (2) *AQa (Odds ratio)*	Column (3) *AQb (Odds ratio)*	Column (4) *AQc (Odds ratio)*	Column (5) *AQd (Odds ratio)*	Column (6) *AQe (Odds ratio)*
Intercept		0.003	0.009	0.009	0.003	0.076
		(0.028)	(0.167)	(0.098)	(0.049)	(0.439)
Instit_own	**0.024*** **	1.015	1.003	**1.036** **	**1.036** **	**1.037** **
	(0.010)	(0.109)	(0.745)	**(0.015)**	**(0.014)**	**(0.048)**
Size	**0.651** **	1.664	1.865	1.555	1.750	1.129
	(0.030)	(0.136)	(0.153)	(0.240)	(0.141)	(0.782)
AuditComm	**0.972*** **	**1.853***	0.653	**4.778*** **	**4.710*** **	**4.742*** **
	(0.000)	**(0.058)**	(0.310)	**(0.000)**	**(0.000)**	**(0.000)**
Complex	-0.013	0.977	0.962	0.996	0.994	0.983
	(0.430)	(0.261)	(0.154)	(0.843)	(0.778)	(0.449)
ROA	-0.206	1.371	1.618	0.561	0.591	0.633
	(0.860)	(0.817)	(0.750)	(0.686)	(0.716)	(0.766)
CEO_involve	0.047	1.232	1.496	0.939	1.080	0.891
	(0.860)	(0.513)	(0.315)	(0.851)	(0.823)	(0.775)
Leverage	0.198	1.265	0.992	1.323	1.347	1.226
	(0.770)	(0.769)	(0.993)	(0.744)	(0.730)	(0.831)
Financial	**0.931*** **	2.129	1.142	**3.618*** **	**3.061** **	**3.877** **
	(0.010)	(0.114)	(0.827)	**(0.006)**	**(0.019)**	**(0.024)**
Service	**1.307*** **	4.139	2.987	**4.056*** **	**3.474*** **	**5.944*** **
	(0.000)	(0.003)	(0.096)	**(0.003)**	**(0.010)**	**(0.002)**
Industrial	0.365	1.748	1.922	1.426	1.310	1.643
	(0.390)	(0.303)	(0.383)	(0.490)	(0.608)	(0.434)
Pseudo-R^2	0.215	0.141	0.095	0.290	0.295	0.277
N	200	200	118	200	187	133

Note: ***,**,* Significant at 1, 5 and 10% two tailed, respectively. The significance value *(p)* is reported in parenthesis below each odds ratio, except the *AQ* p-value is reported in parenthesis below the regression estimation

AQ_i is an ordinal audit quality from 1 to 6, where AQ_i = 6 represents the highest audit quality and AQ_i = 1 represents the lowest audit quality. Threshold *AQ* = 1 is 3.783 at p-value (0.090), threshold *AQ* = 2 is 5.864 at (0.010), threshold *AQ* = 3 is 6.019 at (0.000), threshold *AQ* = 4 is 7.019 at (0.00), threshold *AQ* = 5 is 10.816 at (0.000)

AQa_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero otherwise

AQb_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero if audit pair has one Big N and one local auditor

AQc_i = one if audit pair has at least one Big N auditor, and zero if audit pair has no Big N auditors

AQd_i = one if the audit pair includes EY and/or DT, and zero otherwise

AQe_i = one if audit pair has one Big N and one internationally affiliated auditor, and zero if audit pair has two internationally affiliated auditors or one internationally affiliated and one local auditor.

The results of the ordinal regression of the relationship between institutional ownership and audit quality are shown in column one of Table 5-1. It is clear from the ordinal regression results that *Instit_own* is positively and significantly associated with *AQ* at a 1% significance level. This suggests that the higher the institutional ownership, the more likely a firm will employ a higher quality joint audit. Columns two to seven present the logistic regression models of the relationship between five different audit quality partitions and institutional ownership. Odds ratios are used in these analyses to assess how the probability of event changes (chosen joint audit quality) as the condition of interest changes (ownership type). If the odds ratio is equal to one, the probability that a firm will choose a higher quality joint audit does not change. However, if the odds ratio is higher (lower) than one, there is an increase in the probability that the firm will choose a higher (lower) quality joint audit because of changes in the condition of interest (ownership type) (Breaugh, 2003). Columns four, five and six present significant positive results (odds ratio > 1) of the association between institutional ownership and higher quality audit in three joint audit partitions, *AQc*, *AQd* and *AQe*, at a 5% significance level. Column four compares firms with at least one Big N auditor (*AQc*) (n = 118) against firms with no Big N auditors in their audit pair (n = 82). The result indicates that the use of at least one Big N auditor is more likely when there is more institutional ownership.

The Kuwaiti audit market is dominated by two of the Big N firms: EY and DT. EY and DT have specialised in the Kuwaiti market and enjoy a higher reputation than do other Big N firms. Following DeAngelo's (1981b) argument that bigger audit firms bigger are better, it is expected that, as dominant market specialists, EY and DT provide a higher audit quality than do non–Big N audit pairs. The partition *AQd* in column five compares firms with EY and DT in their audit pair (n = 105) against all other firms with no Big N auditors in their audit pair (n = 82). The results indicate that firms with institutional ownership are more likely to use audit pairs that contain a Big N auditor with a higher specialisation and reputation. This supports the argument that institutional ownership affects the choice of audit pair quality.

Column six presents the results of the last audit partition, *AQe*, which compares firms with one Big N auditor and one internationally affiliated auditor (n = 69) against firms that have either two internationally affiliated auditors or one internationally affiliated auditor and one local audit firm (n = 64). This thesis posits that Big N auditors

provide higher quality audits than do internationally affiliated audit firms. The results in column six indicate that firms with greater institutional investor ownership are more likely to use a higher audit quality choice. This supports the argument that, to reduce information asymmetry and provide more governance, institutional investors drive firms to choose higher audit quality pairs. Collectively, the results of the ordinal and logistic regression models support Hypothesis 1a, which proposes that companies with institutional ownership are more likely to employ a higher quality joint audit. This is because institutional investors use higher quality joint auditors as a governance tool to reduce information asymmetry and ensure higher quality reported financial statements.

Table 5-2 presents the ordinal and logistic regression results for Hypotheses 1b and 1c. The ordinal regression results in column one show that *Active_instit* is positively associated with a higher quality joint audit, at a 1% significance level, while there is no statistical association between *Passive_instit* and joint audit quality partitions. Further, the logistic regression results show that firms with *Active_instit* are more likely to use higher quality joint audit (odds ratio > 1) in four of joint audit partitions (*AQa, AQc*, *AQd* and *AQe*) at a 10% significance level, while *Passive_instit* is positively associated with only one joint audit quality partition (*AQd*) at a 10% significance level.

The results of the ordinal and logistic regressions support Hypotheses 1b and 1c. Hypothesis 1b posits negative relationship between greater bank and insurance company ownership and joint audit quality, while Hypothesis 1c posits positive association between mutual fund and foreign investor ownership and joint audit quality. These results are justified because passive institutional owners in Kuwait typically have close business relationships with investee firms with investment objectives other than profiting. These close relationships result in greater loyalty to the management of the investee firms, provide insider information, reduce information asymmetry and mitigate the need to employ more expensive, higher quality joint auditors. In contrast, active institutional owners are more concerned with profit maximisation and have a less close relationship with the investee firms' management. Therefore, they require higher quality governance mechanisms, such as higher quality joint auditors. This evidence is consistent with the argument that institutional investors are not homogenous and have different influence on the quality of employed auditors (see Section 2.5.1).

The remaining variables in Tables 5-1 and 5-2 are control variables for other factors that may affect joint audit quality choice. The ordinal regression models show

that *Size* is positively associated with joint audit quality, which is consistent with Francis et al. (2009). The most consistent evidence across all columns in Tables 5-1 and 5-2 (with the exception of column four) is that firms with audit committees are more likely to employ higher quality joint audit, which is consistent with Ghafran and O'Sullivan (2012). Two of the market sectors (financial and service) also show a positive relationship with audit quality. The rest of the control variables show an insignificant association with joint audit quality.

Table 5-2 Ordinal and Logistic Regressions of the Relationship between Joint Audit Quality and Type of Institutional Ownership (Active vs. Passive Investors)

Ordinal regression model:

$$AQ_i = \beta_0 + \beta_1 Active\_instit_i + \beta_2 Passive\_instit_i + \beta_3 Size_i + \beta_4 AuditComm_i + \beta_5 Complex_i + \beta_6 ROA_i + \beta_7 CEO\_involve_i + \beta_8 Leverage_i + \beta_9 Industry_i + \varepsilon_i$$

Logit regression model:

$$AQa, b, c, d, e,_i = \beta_0 + \beta_1 Active\_instit_i + \beta_2 Passive\_instit_i + \beta_3 Size_i + \beta_4 AuditComm_i + \beta_5 Complex_i + \beta_6 ROA_i + \beta_7 CEO\_involve_i + \beta_8 Leverage_i + \beta_9 Industry_i + \varepsilon_i$$

	Column (1) *AQ (Estimate)*	Column (2) *AQa (Odds ratio)*	Column (3) *AQb (Odds ratio)*	Column (4) *AQc (Odds ratio)*	Column (5) *AQd (Odds ratio)*	Column (6) *AQe (Odds ratio)*
Intercept		0.003	0.007	0.011	0.004	0.080
		(0.025)	(0.154)	(0.112)	(0.054)	(0.447)
Active_instit	**0.031*** **	**1.023** **	1.013	**1.030***	**1.032***	**1.036***
	(0.006)	**(0.079)**	(0.378)	**(0.092)**	**(0.065)**	**(0.100)**
Passive_instit	0.015	1.006	0.994	1.039	**1.041***	1.037
	(0.226)	(0.644)	(0.654)	(0.108)	**(0.089)**	(0.226)
Size	**0.649** **	1.691	1.920	1.520	1.722	1.124
	(0.026)	(0.127)	(0.143)	(0.263)	(0.152)	(0.789)
AuditComm	**1.008*** **	**1.945** **	0.685	**4.772*** **	**4.788*** **	**4.724*** **
	(0.000)	**(0.044)**	(0.371)	**(0.000)**	**(0.000)**	**(0.000)**
Complex	-0.013	0.977	0.961	0.996	0.994	0.982
	(0.429)	(0.258)	(0.151)	(0.845)	(0.775)	(0.443)
ROA	-0.165	1.428	1.666	0.606	0.573	0.636
	(0.887)	(0.795)	(0.733)	(0.729)	(0.704)	(0.770)
CEO_involve	0.039	1.220	1.471	0.933	1.084	0.892
	(0.884)	(0.533)	(0.337)	(0.834)	(0.814)	(0.779)
Leverage	0.312	1.406	1.139	1.318	1.315	1.239
	(0.647)	(0.673)	(0.893)	(0.748)	(0.752)	(0.823)
Financial	**0.908** **	2.088	1.091	**3.764*** **	**3.113** **	**3.827** **
	(0.016)	(0.126)	(0.887)	**(0.005)**	**(0.018)**	**(0.026)**
Service	**1.289*** **	**4.120*** **	**2.958*** **	**4.070*** **	**3.529*** **	**5.916*** **
	(0.001)	**(0.003)**	**(0.100)**	**(0.003)**	**(0.010)**	**(0.003)**
Industrial	0.339	1.715	1.865	1.402	1.297	1.617
	(0.423)	(0.322)	(0.407)	(0.512)	(0.621)	(0.452)
Pseudo-R^2	0.22	0.146	0.105	0.293	0.296	0.277
N	200	200	118	200	187	133

Note: ***,**,* Significant at 1, 5 and 10% two tailed, respectively. The significance value *(p)* is reported in parenthesis below each odds ratio, except the AQ_i p-value is reported in parenthesis below the regression estimation

AQ_i is an ordinal audit quality from 1 to 6, where AQ_i = 6 represents the highest audit quality and AQ_i = 1 represents the lowest audit quality. Threshold *AQ* = 1 is 3.786 at p-value (0.086), threshold *AQ* = 2 is 5.867 at (0.008), threshold *AQ* = 3 is 6.022 at (0.007), threshold *AQ* = 4 is 7.102 at (0.002), threshold *AQ* = 5 is 10.844 at (0.000)

AQa_i = one if audit pair has two Big N auditors or one Big N and internationally affiliated auditor, and zero otherwise

AQb_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero if audit pair has one Big N and one local auditor

AQc_i = one if audit pair has at least one Big N auditor, and zero if audit pair has no Big N auditor

AQd_i = one if audit pair includes EY and/or DT, and zero otherwise

AQe_i = one if audit pair has one Big N and one internationally affiliated auditor, and zero if audit pair has two internationally affiliated auditors or one internationally affiliated and one local auditor.

5.2.2 GOVERNMENT OWNERSHIP

The study investigates the relationship between government ownership and joint audit quality by testing Hypothesis 2, which states that companies with greater government ownership are less likely to employ a higher quality joint audit. However, the results of ordinal regression model in Table 5-3 show that firms with greater government ownership are positively associated with higher quality joint audit at a 5% significance level. These results are the opposite of the hypothesised direction. Table 5-3 also presents the logistic regression results of association between government ownership and different partitions of joint audit. The logistic regression results indicate that firms with greater government ownership are more likely to employ a higher quality joint audit (odds ratio > 1) in two audit pair partitions (*AQa* and *AQc*) at a 10% significance level. These results do not support the second hypothesis that companies with greater government ownership are less likely to employ a higher quality joint audit.

Table 5-3 Ordinal and Logistic Regression of the Relationship between Audit Quality and Government Ownership

Ordinal regression model:

$$AQ_i = \beta_0 + \beta_1 Govt\_own_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

Logit regression model:

$$AQa, b, c, d, e,_i = \beta_0 + \beta_1 Govt\_own_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

	Column (1) *AQ (Estimate)*	Column (2) *AQa (Odds ratio)*	Column (3) *AQb (Odds ratio)*	Column (4) *AQc (Odds ratio)*	Column (5) *AQd (Odds ratio)*	Column (6) *AQe (Odds ratio)*
Intercept		0.004	0.013	0.022	0.009	0.284
		(0.038)	(0.203)	(0.170)	(0.094)	(0.703)
Govt_own	**0.028****	**1.029***	1.015	**1.044***	1.040	1.044
	(0.047)	**(0.080)**	(0.404)	**(0.092)**	(0.116)	(0.118)
Size	**0.647****	1.606	1.793	1.413	1.575	0.957
	(0.025)	(0.166)	(0.183)	(0.349)	(0.222)	(0.920)
AuditComm	**0.875*****	**1.726****	0.614	**4.187*****	**4.274*****	**4.200*****
	(0.002)	**(0.096)**	(0.252)	**(0.000)**	**(0.000)**	**(0.001)**
Complex	-0.012	0.979	0.964	1.000	0.998	0.989
	(0.494)	(0.299)	(0.181)	(0.993)	(0.918)	(0.625)
ROA	-0.256	1.262	1.557	0.697	0.688	0.861
	(0.825)	(0.864)	(0.770)	(0.800)	(0.795)	(0.923)
CEO_involve	0.088	1.287	1.533	1.003	1.147	1.046
	(0.742)	(0.431)	(0.289)	(0.992)	(0.687)	(0.911)
Leverage	0.112	1.313	1.059	1.266	1.238	1.268
	(0.868)	(0.733)	(0.953)	(0.777)	(0.798)	(0.801)
Financial	**1.006*****	**2.213***	1.080	**3.847*****	**3.270*****	**4.287****
	(0.007)	**(0.094)**	(0.900)	**(0.003)**	**(0.010)**	**(0.014)**
Service	**1.252*****	**3.899*****	2.741	**3.562*****	**3.096****	**5.232*****
	(0.001)	**(0.004)**	(0.129)	**(0.006)**	**(0.016)**	**(0.004)**
Industrial	0.221	1.530	1.720	1.194	1.105	1.539
	(0.600)	(0.435)	(0.473)	(0.729)	(0.849)	(0.501)
Pseudo- R^2	0.201	0.146	0.103	0.271	0.269	0.264
N	200	200	118	200	187	133

Note: ***,**,* Significant at 1, 5 and 10% two tailed, respectively. The significance value *(p)* is reported in parenthesis below each odds ratio, except the AQ_i p-value is reported in parenthesis below the regression estimation

AQ_i is an ordinal audit quality from 1 to 6, where AQ_i = 6 represents the highest audit quality and AQ_i = 1 represents the lowest audit quality. Threshold *AQ* = 1is 3.637 at p-value (0.099), threshold *AQ* = 2 is 5.712 at (0.010), threshold *AQ* = 3 is 5.864 at (0.008), threshold *AQ* = 4 is 6.933 at (0.002), threshold *AQ* = 5 is 10.563 at (0.000)

AQa_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero otherwise

AQb_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero if audit pair has one Big N and one local auditor

AQc_i = one if audit pair has at least one Big N auditor, and zero if audit pair has no Big N auditor

AQd_i = one if audit pair includes EY and/or DT, and zero otherwise

AQe_i = one if audit pair has one Big N and one internationally affiliated auditor, and zero if audit pair has two internationally affiliated auditors or one internationally affiliated and one local auditor.

These results contradict Wang et al.'s (2008) finding that government-owned firms are more likely to hire small local auditors. Francis et al. (2009) find, in the

French joint audit setting, that there is no statistical relationship between government ownership and audit quality. In relation to the Kuwaiti market, Sartawi (2012) notes that, while relatively few companies have government ownership (19% of the current sample), those companies tend to be large and economically significant. This suggests that size and government ownership are related and might explain the ordinal and logistic regression results. To explore this further, this study conducts an additional ANOVA analysis to determine whether firm size is related to the presence of government ownership. *Govt_own* is recoded to be dichotomous by allocating a value of one if a sample firm has government ownership, and zero otherwise.

The results of the ANOVA test, shown in Table 5-4, suggest that the means for *Size* for firms with and without government ownership are statistically different. The implication of this is that government ownership may proxy for large firms that have more complex audit needs, and this characteristic drives the choice regarding whether to have Big N auditors in the audit pair. In addition, for large client firms, Big N auditors are less expensive as a percentage of revenue, and Big N auditors, due to scale effects, offer industry specialist skills (Francis, 2004). Thus, factors such as client size, relative cost and auditor expertise more likely explain large firms choosing large audit firms, rather than government ownership, in Kuwait.

Table 5-4 ANOVA Results for Firms' Size With and Without Government Ownership

	Mean			
Variable	**No-Govt**	**Govt**	**F-statistic**	**P-value**
Size	7.75	8.09	11.127	**0.001*** **

Note: *** Significant at 1% two tailed .

5.2.3 FAMILY OWNERSHIP

This study investigates the effect of family ownership on the chosen audit quality by testing Hypothesis 3, which states that there is a relationship between the level of family ownership and audit quality. This non-directional hypothesis was developed because of competing theoretical arguments and the alternative predictions of empirical research, as discussed in Section 2.5.3. For the purposes of this research, family influence on chosen joint audit quality is indicated by two different variables: $Family\_own_i$ and $Family\_cntrl_i$. The ordinal and logistic regression results for $Family\_own_i$ are presented in Table 5-5. The results show that firms with family

ownership are more likely to employ a lower quality joint audit, but this relationship is not statistically significant.

Table 5-5 Ordinal and Logistic Regression of the Relationship between Joint Audit Quality and Family Ownership

Ordinal regression model:

$$AQ_i = \beta_0 + \beta_1 Family\_own_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

Logistic regression model:

$$AQa, b, c, d, e,_i = \beta_0 + \beta_1 Family\_own_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

	Column (1) *AQ* *(Estimate)*	Column (2) *AQa* *(Odds ratio)*	Column (3) *AQb* *(Odds ratio)*	Column (4) *AQc* *(Odds ratio)*	Column (5) *AQd* *(Odds ratio)*	Column (6) *AQe* *(Odds ratio)*
Intercept		0.004	0.009	0.029	0.011	0.231
		(0.036)	(0.168)	(0.204)	(0.112)	(0.652)
Family_own	-0.009	0.995	0.999	0.990	0.991	0.993
	(0.130)	(0.486)	(0.925)	(0.180)	(0.232)	(0.421)
Size	**0.667****	1.663	1.879	1.427	1.594	1.033
	(0.022)	(0.133)	(0.147)	(0.334)	(0.207)	(0.941)
AuditComm	**0.896*****	**1.827***	0.647	**4.267*****	**4.239*****	**4.312*****
	(0.002)	**(0.063)**	(0.302)	**(0.000)**	**(0.000)**	**(0.001)**
Complex	-0.013	0.977	0.961	0.999	0.996	0.985
	(0.453)	(0.257)	(0.149)	(0.949)	(0.860)	(0.504)
ROA	-0.034	1.466	1.602	0.851	0.810	0.850
	(0.977)	(0.778)	(0.756)	(0.912)	(0.886)	(0.917)
CEO_involve	0.010	1.209	1.494	0.922	1.063	0.967
	(0.971)	(0.549)	(0.317)	(0.805)	(0.856)	(0.933)
Leverage	0.004	1.130	0.958	1.153	1.091	1.036
	(0.995)	(0.876)	(0.965)	(0.865)	(0.917)	(0.970)
Financial	**0.978*****	**2.264***	1.152	**3.751****	**3.200****	**4.015****
	(0.009)	**(0.085)**	(0.816)	**(0.004)**	**(0.012)**	**(0.018)**
Service	**1.369*****	**4.255*****	3.015	**3.946*****	**3.349****	**5.439****
	(0.000)	**(0.003)**	(0.097)	**(0.003)**	**(0.011)**	**(0.003)**
Industrial	0.223	1.599	1.903	1.207	1.115	1.470
	(0.596)	(0.386)	(0.390)	(0.711)	(0.833)	(0.542)
Pseudo- R^2	0.191	0.127	0.069	0.258	0.257	0.240
N	200	200	118	200	187	133

Note: ***,**,* Significant at 1, 5 and 10% two tailed, respectively. The significance value *(p)* is reported in parentheses below each odds ratio, except the AQ_i p-value is reported in parentheses below the regression estimation

AQ_i is an ordinal audit quality from 1 to 6, where $AQ_i = 6$ represents the highest audit quality and $AQ_i = 1$ represents the lowest audit quality. Threshold AQ = 1 is 3.488 at p-value (0.117), threshold AQ = 2 is 5.563 at (0.013), threshold AQ = 3 is 5.715 at (0.011), threshold AQ = 4 is 6.776 at (0.003), threshold AQ = 5 is 10.345 at (0.000)

AQa_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero otherwise

AQb_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero if audit pair has one Big N and one local auditor

AQc_i = one if audit pair has at least one Big N auditor, and zero if audit pair has no Big N auditor

AQd_i = one if audit pair includes EY and/or DT, and zero otherwise

AQe_i = one if audit pair has one Big N and one internationally affiliated auditor, and zero if audit pair has two internationally affiliated auditors or one internationally affiliated and one local auditor.

The results of the family control (*Family_cntrl*) effect on chosen joint audit quality are presented in Table 5-6. The ordinal regression in column one shows that firms with more family control are negatively associated with higher quality audit pairs, at a 1% significance level. The logistic regression models show that firms with family control are less likely (odds ratio < 1) to employ a higher quality joint audit in four audit quality partitions: *AQa*, *AQc*, *AQd* and *AQe*, at 10, 1, 1 and 5% significance levels, respectively. This implies that an increase in *Family_cntrl* results in a decrease in using a higher quality joint audit. However, the results support Hypothesis 3 because there is a relationship between level of family ownership and joint audit quality. This relationship becomes clearer when using family control as an indication of family ownership.

This negative relationship between level of family control and joint audit quality is driven by the low level of Type I agency problems that indicate agency problems between firms' owners and management. Therefore, there is less demand for higher quality auditors to mitigate Type I agency problems. Controlling families usually have a historical presence in their firms and hold control management and director posts; thus, they have the ability to influence and monitor their firms' management, which leads to lower information asymmetry and less conflict of interest between owners and managers. However, the results can be interpreted as an indication of high Type II agency problems, given that the controlling family has the ability to enjoy private rent at minority shareholders' expense. The results of Hypothesis 3 are in accordance with findings reported by Francis et al. (2009), Niskanen et al. (2010) and Ho and Kang (2013), which state that family ownership is negatively associated with chosen audit quality.

Table 5-6 Ordinal and Logistic Regression of the Relationship between Audit Quality and Family Control

Ordinal regression model:

$$AQ_i = \beta_0 + \beta_1 Family\_cntrl_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

Logistic regression model:

$$AQa, b, c, d, e_{,i} = \beta_0 + \beta_1 Family\_cntrl_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

	Column (1) *AQ (Estimate)*	Column (2) *AQa (Odds ratio)*	Column (3) *AQb (Odds ratio)*	Column (4) *AQc (Odds ratio)*	Column (5) *AQd (Odds ratio)*	Column (6) *AQe (Odds ratio)*
Intercept		0.005	0.010	0.033	0.013	0.228
		(0.044)	(0.183)	(0.234)	(0.133)	(0.656)
Family_cntrl	**-0.014**	**0.988***	0.996	**0.982*****	**0.982*****	**0.982****
	(0.008)***	**(0.073)**	(0.678)	**(0.006)**	**(0.008)**	**(0.024)**
Size	**0.662****	1.650	1.857	1.432	1.602	1.069
	(0.024)	(0.142)	(0.156)	(0.340)	(0.212)	(0.880)
AuditComm	**0.896*****	**1.761***	0.641	**4.222*****	**4.162*****	**4.152*****
	(0.002)	**(0.082)**	(0.291)	**(0.0000**	**(0.000)**	**(0.001)**
Complex	-0.012	0.978	0.962	0.999	0.997	0.982
	(0.492)	(0.276)	(0.159)	(0.9750	(0.884)	(0.430)
ROA	-0.015	1.480	1.551	0.817	0.734	0.670
	(0.990)	(0.776)	(0.772)	(0.894)	(0.840)	(0.804)
CEO_involve	0.053	1.235	1.502	0.960	1.112	1.094
	(0.845)	(0.509)	(0.310)	(0.902)	(0.758)	(0.826)
Leverage	0.018	1.142	0.949	1.159	1.065	1.004
	(0.979)	(0.866)	(0.957)	(0.864)	(0.941)	(0.996)
Financial	**1.029*****	**2.307***	1.151	**4.020*****	**3.436*****	**4.176****
	(0.006)	**(0.080)**	(0.818)	**(0.003)**	**(0.009)**	**(0.017)**
Service	**1.437*****	**4.555*****	**3.145***	**4.363*****	**3.663*****	**5.855*****
	(0.000)	**(0.002)**	**(0.088)**	**(0.002)**	**(0.007)**	**(0.003)**
Industrial	0.218	1.576	1.935	1.174	1.092	1.385
	(0.606)	(0.403)	(0.379)	(0.755)	(0.867)	(0.611)
Pseudo- R^2	0.212	0.145	0.096	0.291	0.290	0.278
N	200	200	118	200	187	133

Note: ***,**,* Significant at 1, 5 and 10% two tailed, respectively. The significance value *(p)* is reported in parenthesis below each odds ratio, except the AQ_i p-value is reported in parenthesis below the regression estimation

AQ_i is an ordinal audit quality from 1 to 6, where $AQ_i = 6$ represents the highest audit quality and $AQ_i = 1$ represents the lowest audit quality. Threshold AQ = 1 is 3.307 at p-value (0.137), threshold $AQ = 2$ is 5.414 at (0.015), threshold $AQ = 3$ is 5.571 at (0.013), threshold $AQ = 4$ is 6.658 at (0.003), threshold $AQ = 5$ is 10.267 at (0.000)

AQa_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero otherwise

AQb_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero if audit pair has one Big N and one local auditor

AQc_i = one if audit pair has at least one Big N auditor, and zero if audit pair has no Big N auditor

AQd_i = one if audit pair includes EY and/or DT, and zero otherwise

AQe_i = one if audit pair has one Big N and one internationally affiliated auditor, and zero if audit pair has two internationally affiliated auditors or one internationally affiliated and one local auditor.

5.2.4 ROYAL FAMILY OWNERSHIP

The study tests Hypothesis 4, which posits that companies with greater royal family ownership are less likely to employ higher quality joint audits. Two variables are used to capture royal family influence on the chosen audit pair quality: $Royal\_own_i$ and $Royal\_cntrl_i$. The regression results for the relationship between $Royal\_own_i$ and joint audit quality are presented in Table 5-7. The ordinal regression results of AQ_i in column one and the logistic regression results of *AQa* and *AQb* in columns two and three show that firms with greater royal family ownership are less likely to employ a higher quality joint audit, but this relationship is not statistically significant. Table 5-8 shows the results of the relationship between *Royal_cntrl* and joint audit quality, and indicates a non–statistically significant negative relationship between *Royal_cntrl* and *AQ*, *AQa* and *AQb* in columns one, two and three, respectively. Therefore, the results do not support the hypothesised negative relationship between royal family ownership and joint audit quality.

Table 5-7 Ordinal and Logistic Regression of the Relationship between Audit Quality and Royal Family Ownership

Ordinal regression model:

$$AQ_i = \beta_0 + \beta_1 Royal\_own_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

Logistic regression model:

$$AQa, b, c, d, e, _i = \beta_0 + \beta_1 Royal\_own_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

	Column (1)	Column (2)	Column (3)	Column (4)	Column (5)	Column (6)
	AQ (Estimate)	*AQa (Odds ratio)*	*AQb (Odds ratio)*	*AQc (Odds ratio)*	*AQd (Odds ratio)*	*AQe (Odds ratio)*
Intercept		0.003	0.009	0.021	0.008	0.440
		(0.027)	(0.172)	(0.161)	(0.087)	(0.802)
Royal_own	-0.005	0.993	0.985	1.015	1.017	1.039
	(0.612)	(0.596)	(0.304)	(0.277)	(0.213)	(0.140)
Size	0.692	1.698	1.891	1.434	1.598	0.927
	(0.017)	(0.117)	(0.144)	(0.321)	(0.201)	(0.860)
AuditComm	**0.950*** **	**1.880***	**0.648**	**4.569*** **	**4.557*** **	**4.947*** **
	(0.001)	**(0.051)**	**(0.305)**	**(0.000)**	**(0.000)**	**(0.000)**
Complex	-0.013	0.977	0.967	0.994	0.991	0.975
	(0.445)	(0.276)	(0.251)	(0.791)	(0.698)	(0.278)
ROA	-0.139	1.416	1.447	0.810	0.798	0.863
	(0.904)	(0.796)	(0.807)	(0.882)	(0.875)	(0.923)
CEO_involve	0.031	1.224	1.495	0.910	1.050	0.929
	(0.908)	(0.523)	(0.317)	(0.774)	(0.885)	(0.854)
Leverage	-0.029	1.112	0.952	1.177	1.144	1.210
	(0.964)	(0.894)	(0.959)	(0.845)	(0.872)	(0.839)
Financial	**1.005*** **	**2.288***	1.088	**3.902*** **	**3.283** **	**3.713** **
	(0.008)	**(0.081)**	(0.891)	**(0.003)**	**(0.011)**	**(0.028)**
Service	**1.261*** **	**3.986*** **	2.671	**3.874*** **	**3.369** **	**5.420*** **
	(0.001)	**(0.004)**	(0.143)	**(0.004)**	**(0.011)**	**(0.004)**
Industrial	0.223	1.618	1.750	1.225	1.118	1.378
	(0.596)	(0.373)	(0.457)	(0.689)	(0.831)	(0.617)
Pseudo- R^2	0.182	0.126	0.108	.0255	0.259	0.255
N	200	200	118	200	187	133

Note: ***,**,* Significant at 1, 5 and 10% two tailed, respectively. The significance value *(p)* is reported in parenthesis below each odds ratio, except the AQ_i p-value is reported in parenthesis below the regression estimation

AQ_i is an ordinal audit quality from 1 to 6, where $AQ_i = 6$ represents the highest audit quality and $AQ_i = 1$ represents the lowest audit quality. Threshold $AQ = 1$ is 3.864 at (0.079), threshold $AQ = 2$ is 5.920 at (0.007), threshold $AQ = 3$ is 6.070 at (0.006), threshold $AQ = 4$ is 7.121 at (0.001), threshold $AQ = 5$ is 10.671 at (0.000)

AQa_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero otherwise

AQb_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero if audit pair has one Big N and one local auditor

AQc_i = one if audit pair has at least one Big N auditor, and zero if audit pair has no Big N auditor

AQd_i = one if audit pair includes EY and/or DT, and zero otherwise

AQe_i = one if audit pair has one Big N and one internationally affiliated auditor, and zero if audit pair has two internationally affiliated auditors or one internationally affiliated and one local auditor.

Table 5-8 Ordinal and Logistic Regression of the Relationship between Audit Quality and Royal Family Control

Ordinal regression model:

$$AQ_i = \beta_0 + \beta_1 Royal\_cntrl_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

Logistic regression model:

$$AQa,b,c,d,e,_i = \beta_0 + \beta_1 Royal\_cntrl_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

	Column (1)	Column (2)	Column (3)	Column (4)	Column (5)	Column (6)
	AQ_I (Estimate)	*AQa (Odds ratio)*	*AQb_i (Odds ratio)*	*AQc_i (Odds ratio)*	*AQd_i (Odds ratio)*	*AQe_i (Odds ratio)*
Intercept		0.003	0.011	0.020	0.008	0.444
		(0.028)	(0.186)	(0.156)	(0.082)	(0.804)
Royal_cntrl	-0.003	0.995	0.988	1.015	1.017	1.039
	(0.684)	(0.606)	(0.282)	(0.215)	(0.158)	(0.117)
Size	0.687	1.690	1.855	1.442	1.613	0.925
	(0.018)	(0.120)	(0.1570	(0.313)	(0.192)	(0.858)
AuditComm	**0.956*** **	**1.896** **	0.671	**4.511*** **	**4.484*** **	**4.904*** **
	(0.001)	**(0.048)**	(0.345)	**(0.000)**	**(0.000)**	**(0.000)**
Complex	-0.013	0.977	0.967	0.993	0.991	0.975
	(0.438)	(0.273)	(0.2460	(0.772)	(0.678)	(0.275)
ROA	-0.127	1.424	1.462	0.795	0.784	0.865
	(0.913)	(0.793)	(0.802)	(0.871)	(0.865)	(0.924)
CEO_involve	0.026	1.219	1.474	0.915	1.060	0.931
	(0.923)	(0.532)	(0.335)	(0.788)	(0.863)	(0.858)
Leverage	-0.037	1.103	0.917	1.194	1.163	1.232
	(0.956)	(0.902)	(0.929)	(0.831)	(0.857)	(0.825)
Financial	**1.002*** **	**2.285** *	1.089	**3.919*** **	**3.299** **	**3.677** **
	(0.008)	**(0.081)**	(0.890)	**(0.003)**	**(0.011)**	**(0.029)**
Service	**1.269*** **	**4.014*** **	2.738	**3.866*** **	**3.351** **	**5.346*** **
	(0.001)	**(0.004)**	(0.131)	**(0.004)**	**(0.011)**	**(0.004)**
Industrial	0.223	1.616	1.759	1.219	1.110	1.362
	(0.595)	(0.374)	(0.452)	(0.697)	(0.842)	(0.632)
Pseudo- R^2	0.182	0.126	0.107	0.258	0.262	0.260
N	200	200	118	200	187	133

Note: ***,**,* Significant at 1, 5 and 10% two tailed, respectively. The significance value *(p)* is reported in parenthesis below each odds ratio, except the AQ_i p-value is reported in parenthesis below the regression estimation

AQ_i is an ordinal audit quality from 1 to 6, where $AQ_i = 6$ represents the highest audit quality and $AQ_i = 1$ represents the lowest audit quality. Threshold $AQ = 1$ is 3.829 at p-value (0.082), threshold $AQ = 2$ is 5.885 at (0.008), threshold $AQ = 3$ is 6.035 at (0.006), threshold $AQ = 4$ is 7.086 at (0.001), threshold $AQ = 5$ is 10.636 at (0.000)

AQa_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero otherwise

AQb_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero if audit pair has one Big N and one local auditor

AQc_i = one if audit pair has at least one Big N auditor, and zero if audit pair has no Big N auditor

AQd_i = one if audit pair includes EY and/or DT, and zero otherwise

AQe_i = one if audit pair has one Big N and one internationally affiliated auditor, and zero if audit pair has two internationally affiliated auditors or one internationally affiliated and one local auditor.

To further examine the effect of family ownership on chosen joint audit quality, an additional test is run using a new proxy for family ownership that includes both types of family ownership: regular families and the royal family. Two new variables are used to capture both families' effect on the chosen audit pairs: *AllFamily_own* and *AllFamily_cntrl*. Those two variables are calculated in the same way as *Family_own* and *Family_cntrl*, as discussed in Section 3.4.3.

The results of the ordinal and logistic regression that use *AllFamily_own* and *AllFamily_cntrl* are reported in Tables G-1 and G-2 in Appendix G. The results using the new variables show a similar result concerning the relationship between family ownership/control and audit quality as that shown in Tables 5-5 and 5-6. The results support the argument that there is an association between family ownership and chosen joint audit quality. The direction of this association is negative and becomes clearer as the family practices more control over the firm's affairs. Moreover, this association indicates low Type I agency problems and may be a signal of higher Type II agency problems, as discussed in Section 2.5.3.

5.2.5 ISLAMIC BUSINESS PRINCIPLES ADOPTION

Hypothesis 5 posits that adopting Islamic business principles is related to joint audit quality. This hypothesis is partitioned into two sub-hypotheses. Hypothesis 5a states that companies that adopt Islamic business principles are more likely to employ a higher joint quality audit. Hypothesis 5b argues that, among companies adopting Islamic business principles, firms with an SSB are more likely to employ higher joint quality audit firms. Tables 5-9 and 5-10 present the regression results for Hypotheses 5a and 5b, respectively.

Table 5-9 Ordinal and Logistic Regression of the Relationship between Audit Quality and Islamic Firms

Ordinal regression model:

$$AQ_i = \beta_0 + \beta_1 Islamic_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

Logistic regression model:

$$AQa, b, c, d, e,_i = \beta_0 + \beta_1 Islamic_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

	Column (1)	Column (2)	Column (3)	Column (4)	Column (5)	Column (6)
	AQ (Estimate)	*AQa (Odds ratio)*	*AQb (Odds ratio)*	*AQc (Odds ratio)*	*AQd (Odds ratio)*	*AQe (Odds ratio)*
Intercept		-5.737	0.007	0.017	0.007	0.234
		0.028	0.152	0.140	0.076	0.655
Islamic	0.151	**1.864***	**3.158****	0.838	0.901	1.383
	0.638	**0.095**	**0.022**	0.658	0.794	0.500
Size	**0.687****	1.677	1.910	1.489	1.651	1.008
	0.018	0.128	0.145	0.274	0.171	0.985
AuditComm	**0.917*****	**1.808***	0.562	**4.478*****	**4.421*****	**4.422*****
	0.001	**0.070**	0.184	**0.000**	**0.000**	**0.001**
Complex	-0.015	0.972	0.958	0.998	0.996	0.984
	0.372	0.170	0.112	0.942	0.853	0.481
ROA	0.189	1.491	1.572	1.196	1.211	1.293
	0.427	0.409	0.424	0.755	0.729	0.682
CEO_involve	0.019	1.199	1.546	0.923	1.060	0.933
	0.944	0.571	0.295	0.807	0.862	0.862
Leverage	-0.067	0.922	0.902	1.214	1.146	0.861
	0.921	0.920	0.918	0.818	0.872	0.875
Financial	**0.936****	1.752	0.728	**4.065*****	**3.330****	**3.572****
	0.018	0.260	0.631	**0.004**	**0.014**	**0.039**
Service	**1.279*****	**4.168*****	**3.204***	**3.615*****	**3.121****	**5.108*****
	0.001	**0.003**	**0.083**	**0.005**	**0.015**	**0.004**
Industrial	0.228	1.620	2.015	1.216	1.112	1.491
	0.586	0.374	0.360	0.698	0.836	0.526
Pseudo- R^2	0.185	0.150	0.166	0.251	0.250	0.240
N	200	200	118	200	187	133

Note: ***,**,* Significant at 1, 5 and 10% two tailed, respectively. The significance value *(p)* is reported in parentheses below each odds ratio, except the AQ_i p-value is reported in parentheses below the regression estimation

AQ_i is an ordinal audit quality from 1 to 6, where $AQ_i = 6$ represents the highest audit quality and $AQ_i = 1$ represents the lowest audit quality. Threshold $AQ = 1$ is 3.704 at (0.098), threshold $AQ = 2$ is 5.756 at (0.011), threshold $AQ = 3$ is 5.906 at (0.009), threshold $AQ = 4$ is 6.963 at (0.002), threshold $AQ = 5$ is 10.530 at (0.000)

AQa_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero otherwise

AQb_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero if audit pair has one Big N and one local auditor

AQc_i = one if audit pair has at least one Big N auditor, and zero if audit pair has no Big N auditor

AQd_i = one if audit pair includes EY and/or DT, and zero otherwise

AQe_i = one if audit pair has one Big N and one internationally affiliated auditor, and zero if audit pair has two internationally affiliated auditors or one internationally affiliated and one local auditor.

The ordinal regression results presented in column one in Table 5-9 show that companies who have adopted Islamic principles are positively associated with higher joint quality audit, but this relationship is not significant. The logistic regression models show partial support of the theorised relationship between adopting Islamic business principles and audit quality. The logistic regression models of *AQa* and *AQb* in columns two and three show that companies that adopt Islamic business principles are more likely (odds ratio > 1) to employ a higher quality joint audit, at 10% and 5% significance levels, respectively. *AQa* compares an audit partition that includes higher quality joint audit (two Big N auditors or one Big N and one internationally affiliated auditor) against all other audit partitions, and *AQb* compares the same group of high-quality audit pairs with audit pairs that have a Big N firm paired with a local audit firm. The results of *AQc*, *AQd* and *AQe* are all statistically not significant. Therefore, the results suggest partial support for Hypothesis 5a that there is a positive effect of Islamic business principles adoption on audit quality.

Table 5-10 presents the ordinal and logistic regression results of Hypothesis 5b, which aims to distinguish Islamic firms with and without SSBs. The ordinal and logistic regressions results in columns one, two, three and four show that firms with an SSB are more likely (odds ratio > 1) to employ higher quality audit pairs, and this relationship is significant for *AQ*, *AQa*, *AQb* and *AQc* at 5, 5, 1 and 5% significance levels, respectively. The results indicate that Islamic firms with an SSB are associated with higher quality joint audit. This provides strong support for the argument that SSB members, who generally lack the necessary financial expertise, use external auditors' specialisation and expertise to understand the structure of financial transactions. Thus, SSB members can judge whether financial transactions comply with Islamic regulations, and recommend the required changes for non-Islamic-compliant transactions. Thus, Hypothesis 5b is supported because the results show that firms with SSBs are more likely to employ a higher quality joint audit.

Table 5-10 Ordinal and Logistic Regression of the Relationship between Audit Quality and Firms with an SSB

Ordinal regression model:

$$AQ_i = \beta_0 + \beta_1 SSB_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

Logistic regression model:

$$AQa, b, c, d, e,_i = \beta_0 + \beta_1 SSB_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

	Column (1) AQ_I *(Estimate)*	Column (2) AQa_i *(odds ratio)*	Column (3) AQb_i *(odds ratio)*	Column (4) AQc_i *(odds ratio)*	Column (5) AQd_i *(odds ratio)*	Column (6) AQe_i *(odds ratio)*
Intercept		0.002	0.004	0.018	0.006	0.215
		0.021	0.116	0.143	0.071	0.637
SSB	**0.632****	**2.205****	**3.450*****	**1.061****	1.289	1.643
	0.035	**0.030**	**0.007**	**0.047**	0.495	0.277
Size	**0.864**	1.649	1.901	1.468	1.632	0.983
	0.004	0.144	0.159	0.289	0.179	0.968
AuditComm	**0.772*****	**1.917****	0.591	**4.456*****	**4.463*****	**4.641*****
	0.007	**0.049**	0.231	**0.000**	**0.000**	**0.000**
Complex	-0.026	0.975	0.958	0.997	0.994	0.986
	0.133	0.216	0.121	0.896	0.796	0.534
ROA	0.105	1.454	1.555	1.209	1.222	1.295
	0.658	0.373	0.384	0.736	0.703	0.668
CEO_involve	0.128	1.160	1.353	0.925	1.063	0.925
	0.636	0.645	0.470	0.811	0.856	0.844
Leverage	-0.388	1.340	1.924	1.147	1.145	1.070
	0.568	0.716	0.527	0.868	0.870	0.941
Financial	0.583	**2.289***	1.148	**3.801*****	**3.221****	**3.866****
	0.120	**0.084**	0.827	**0.004**	**0.011**	**0.022**
Service	**1.312*****	**3.920*****	2.800	**3.587****	**3.040****	**4.699*****
	0.001	**0.004**	0.125	**0.005**	**0.018**	**0.007**
Industrial	-0.058	1.405	1.619	1.201	1.042	1.283
	0.892	0.533	0.534	0.718	0.937	0.697
Pseudo- R^2	0.184	0.163	0.186	0.249	0.254	0.246
N	200	200	118	200	187	133

Note: ***,**,* Significant at 1, 5 and 10% two tailed, respectively. The significance value *(p)* is reported in parentheses below each odds ratio, except the AQ_i p-value is reported in parentheses below the regression estimation

AQ_i is an ordinal audit quality from 1 to 6, where $AQ_i = 6$ represents the highest audit quality and $AQ_i = 1$ represents the lowest audit quality. Threshold $AQ = 1$ is 4.651 at (0.040), threshold $AQ = 2$ is 6.896 at (0.002), threshold AQ = 3 is 7.058 at (0.002), threshold $AQ = 4$ is 8.105 at (0.000), threshold $AQ = 5$ is 11.945 at (0.000)

AQa_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero otherwise

AQb_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero if audit pair has one Big N and one local auditor

AQc_i = one if audit pair has at least one Big N auditor, and zero if audit pair has no Big N auditor

AQd_i = one if audit pair includes EY and/or DT, and zero otherwise

AQe_i = one if audit pair has one Big N and one internationally affiliated auditor, and zero if audit pair has two internationally affiliated auditors or one internationally affiliated and one local auditor.

The results of the first stage of analysis indicate that institutional, government and family ownership affect the decision of which joint audit is chosen. The overall results for institutional ownership indicate that firms with greater institutional ownership are

associated with a higher quality joint audit. This result is driven by active institutional owners. This supports the argument that institutional owners are not homogenous. The institutional ownership results align with the literature's argument that institution investors are run by professional managers who use their expertise to improve investee firms' transparency by requiring higher corporate governance mechanisms, such as higher quality joint audit. The result of government ownership contradicts the proposed negative relationship between government ownership and chosen joint audit. This reflects the Kuwaiti setting that the government invests in large, well-established listed firms. Thus, it can be concluded that the result is driven by investee firms' characteristics. As expected, the family ownership results show that the level of family ownership affects the quality of the chosen joint audit. However, the results show a negative effect that indicates lower Type I agency problems because of the engagement of family members in the management of investee firms, leading to low information asymmetry.

In addition, the results of the first stage of analysis show support for the hypothesis that firms that adapt Islamic business principles are associated with a higher quality joint audit. Moreover, this relationship becomes clearer for firms that use SSBs in their organisational structure. This result supports the theoretical assumption that Islamic business principles reduce information asymmetry and improve the transparency between parties. This leads to improved reported financial information by employing a higher quality joint audit.

5.3 FINANCIAL REPORTING QUALITY

In the second stage of analysis, this study investigates the relationship between audit quality and FRQ by testing the sixth hypothesis, which is separated into two sub-hypotheses. Hypothesis 6a states that a higher joint audit quality is negatively associated with earnings management. Hypothesis 6b states that a higher joint audit quality is negatively associated with restatements. The results of the second stage analyses are presented in the following subsections.

5.3.1 EARNINGS MANAGEMENT

Since the FRQ model assumes that joint audit quality is an intervening variable, this study uses the 2SLS regression model to test the relationship between audit quality and earnings management. Therefore, the estimated audit quality is used as an

independent variable to determine the effect of the quality of chosen audit pairs on FRQ. To test Hypothesis 6a, this thesis uses two separate measurements to capture the earnings management: accruals quality (*Accrul*) and abnormal working capital accruals (*AWCacc*), as specified in Chapter 3. Table 5-11 presents the regression results of the relationship between different audit partitions and proxies of FRQ (*Accrul* and *AWCAcc*). These results show that a negative relationship exists between *Accrul* and audit quality (*AQ*) and three joint audit partitions (*AQa*, *AQc* and *AQd*), but this relationship is not statistically significant. The results for *AWCacc* show a negative relationship with audit quality (*AQ*) and four joint audit partitions (*AQa*, *AQb*, *AQc* and *AQd*), but this relationship is not statistically significant. Therefore, the results of the earnings management measurements do not support Hypothesis 6a.

Table 5-11 Regression Results of the Relationship between Audit Quality and Financial Reporting Proxies

$$Accrl_i = \beta_0 + \beta_1 \widehat{AQ}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

$$AWCAcc_i = \beta_0 + \beta_1 \widehat{AQ}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Compl_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

Panel A	**$Accrul_i$**		**$AWCAcc_i$**	
Variables	Coefficient	p-value	Coefficient	p-value
AQ^	-0.096	0.678	-0.038	0.781
Size	-0.168	0.682	0.224	0.376
AuditComm	1.240	0.200	-0.028	0.961
Complex	-0.024	0.659	-0.046	0.150
ROA	-0.621	0.620	0.745	0.332
CEO_involve	-0.359	0.720	-0.608	0.434
Leverage	-0.143	0.762	0.407	0.198
Adjusted R^2	0.474		0.060	
N	117		117	

Panel B

$$AQual_i = \beta_0 + \beta_1 \widehat{AQa}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

$$AWCAcc_i = \beta_0 + \beta_1 \widehat{AQa}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

Variables	Coefficient	p-value	Coefficient	p-value
AQa^	-0.254	0.687	-0.033	0.931
Size	-0.209	0.580	0.222	0.369
AuditComm	1.257	0.209	-0.141	0.808
Complex	-0.021	0.684	-0.0452	0.146
ROA	-0.480	0.719	0.654	0.415
CEO_involve	-0.226	0.808	-0.572	0.442
Leverage	-0.111	0.822	0.380	0.230
Adjusted R^2	0.040		0.62	
N	117		117	

Panel C

$$AQual_i = \beta_0 + \beta_1 \widehat{AQb}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

$$AWCAcc_i = \beta_0 + \beta_1 \widehat{AQb}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

Variables	Coefficient	p-value	Coefficient	p-value
AQb^	0.303	0.735	-0.304	0.5031
Size	0.315	0.494	0.185	0.668
AuditComm	-0.522	0.596	0.181	0.803
Complex	-0.034	0.582	-0.054	0.180
ROA	-4.626	0.112	2.507	0.087
CEO_involve	-1.240	0.212	0.326	0.708
Leverage	-0.798	0.279	0.843	0.122
Adjusted R^2	0.504		0.185	
N	64		64	

Panel D

$$AQual_i = \beta_0 + \beta_1 \widehat{AQc}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

$$AWCAcc_i = \beta_0 + \beta_1 \widehat{AQc}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

Variables	Coefficient	p-value	Coefficient	p-value
AQc^	-0.219	0.768	-0.332	0.508
Size	-0.203	0.595	0.207	0.459
AuditComm	1.189	0.222	0.138	0.839
Complex	-0.020	0.705	-0.049	0.168
ROA	-0.671	0.578	0.790	0.342
CEO_involve	-0.319	0.745	-0.708	0.416
Leverage	-0.148	0.749	0.457	0.201
Adjusted R^2	0.492		0.052	
N	117		117	

Panel E

$$AQual_i = \beta_0 + \beta_1 \widehat{AQd}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

$$AWCAcc_i = \beta_0 + \beta_1 \widehat{AQd}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

Variables	Coefficient	p-value	Coefficient	p-value
AQd^	-0.296	0.676	-0.294	0.588
AuditComm	-0.246	0.533	0.184	0.563
Complex	1.389	0.183	0.125	0.877
ROA	-0.033	0.551	-0.049	0.232
CEO_involve	-0.605	0.662	0.611	0.557
Leverage	-0.508	0.635	-0.968	0.371
Adjusted R^2	0.443		0.043	
N	109		109	

Panel F

$$AQual_i = \beta_0 + \beta_1 \widehat{AQe}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

$$AWCAcc_i = \beta_0 + \beta_1 \widehat{AQe}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Lev\quad age_i + \beta_8\, Industry_i + \varepsilon_i$$

Variables	Coefficient	p-value	Coefficient	p-value
AQe^	0.423	0.370	0.329	0.626
AuditComm	-0.463	0.276	0.337	0.416
Complex	0.903	0.253	-1.086	0.407
ROA	0.006	0.926	-0.0206	0.774
CEO_involve	-0.241	0.835	0.404	0.723
Leverage	0.256	0.741	-0.811	0.531
Adjusted R^2	0.567		0.057	
N	78		78	

Note: ***, **, *, Significant at 1, 5 and 10% significance level, respectively. Sargent test results indicate the validity of instruments variables used in the second stage of regression analysis ($10 < p < 6$)

This table presents regression results for the relationship between estimated audit quality and FRQ proxies: *Accrul* and *AWCAcc*. The regressions include unreported industry dummy variables.

AQ_i is an ordinal audit quality from 1 to 6, where $AQ_i = 6$ represents the highest audit quality and $AQ_i = 1$ represents the lowest audit quality

AQa_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero otherwise

AQb_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero if audit pair has one Big N and one local auditor

AQc_i = one if audit pair has at least one Big N auditor, and zero if audit pair has no Big N auditor

AQd_i = one if audit pair includes EY and/or DT, and zero otherwise

AQe_i = one if audit pair has one Big N and one internationally affiliated auditor, and zero if audit pair has two internationally affiliated auditors or one internationally affiliated and one local auditor.

The findings of Table 5-11 are consistent with those from studies of other civil law countries. Maijor and Vanstraelen (2006) report that, in France and Germany, Big N auditors have no significant effect on the level of abnormal working capital accruals. Piot and Janin (2007) find that a Big N audit quality differentiation does not occur in France in respect to accounting earnings. In the Korean market, Jeong and Rho (2004) find no significant difference in the discretionary accruals of firms audited by Big N and

non–Big N auditing firms. In the Kuwaiti context, Algharaballi (2013) reports that, for six accruals models, there is no significant difference in earnings management between firms audited by high or low reputation auditing firms.

In civil law countries, external auditors have less incentive to enforce high-quality earnings because of the absence of strict investor protection regimes (Francis & Wang, 2008; La Porta et al., 1998). Kuwait is a civil law country with weak legal institutions; therefore, external auditors are less concerned about the risk of litigation and subsequently less incentivised to adopt more conservative attitudes with respect to earnings management than in countries with strong legal institutions. This may cause external auditors to be more concerned with management's needs, rather than shareholders' needs. Consequently, joint auditors use their expertise to ensure the reported financial statements align with GAAP and satisfy management's needs. Firms' management contracts and remunerations are usually linked to the reported performance numbers, which provides incentives to manipulate earnings figures.

5.3.2 RESTATEMENTS

The regression results for Hypothesis 6b are presented in Table 5-12. The results show a negative relationship between joint audit quality and restatements; thus, firms that employ a lower quality joint audit are associated with lower quality financial reporting. This negative relationship is statistically significant with all joint audit partitions, except *AQb*. This result supports Hypothesis 6b and indicates that joint audit quality is negatively associated with financial reporting restatements. The findings shown in Table 5-12 are consistent with those presented by Francis et al. (2013a) and Romanus, Maher and Fleming (2008). Thus, higher quality auditors are associated with improved error detection and greater FRQ.

Table 5-12 Logistic Regression of the Relationship between Restatements and Audit Quality

$$Restate_i = \beta_0 + \beta_1 AQ_i + \beta_2 Size_i + \beta_3\ AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\ CEO\_involve_i + \beta_7\ Industry_i + \varepsilon_i$$

Panel A	*Restate*		
Variables	Coefficient	P-value	Odds ratio
Intercept	-0.39	0.99	0.57
AQ	**-0.56*** **	**0.00**	**0.57**
Size	0.31	0.29	1.36
AuditComm	0.12	0.69	1.13
Complex	**-0.03***	**0.10**	**0.97**
ROA	-0.17	0.83	0.84
CEO_involve	-0.17	0.59	0.85
Adjusted R^2	0.17		
N	236		

$$Restate_i = \beta_0 + \beta_1 AQa_i + \beta_2 Size_i + \beta_3\ AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\ CEO\_involve_i + \beta_7\ Industry_i + \varepsilon_i$$

Panel B	*Restate*		
Variables	Coefficient	P-value	Odds ratio
Intercept	-1.56	0.47	0.21
AQa	**-0.77** **	**0.01**	**0.46**
Size	0.29	0.30	1.34
AuditComm	-0.01	0.98	0.99
Complex	-0.04	0.08	0.96
ROA	-0.22	0.77	0.80
CEO_involve	-0.27	0.36	0.77
Adjusted R^2	0.68		
N	236		

$$Restate_i = \beta_0 + \beta_1 AQb_i + \beta_2 Size_i + \beta_3\ AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\ CEO\_involve_i + \beta_7\ Industry_i + \varepsilon_i$$

Panel C	*Restate*		
Variables	Coefficient	P-value	Odds ratio
Intercept	-3.02	0.27	0.05
AQb	-0.12	0.73	0.88
Size	0.35	0.33	1.42
AuditComm	0.22	0.56	1.25
Complex	-0.01	0.61	0.99
ROA	0.15	0.90	1.17
CEO_involve	0.08	0.82	1.09
Adjusted R^2	0.04		
N	150		

$$Restate_i = \beta_0 + \beta_1 AQc_i + \beta_2 Size_i + \beta_3\ AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\ CEO\_involve_i + \beta_7\ Industry_i + \varepsilon_i$$

Panel D	*Restate*		
Variables	Coefficient	P-value	Odds ratio
Intercept	-0.58	0.80	0.56
AQc	**-1.57*** **	**0.00**	**0.21**
Size	0.25	0.39	1.28
AuditComm	0.10	0.75	1.10
Complex	-0.03	0.13	0.97
ROA	-0.28	0.74	0.75
CEO_involve	-0.26	0.40	0.77
Adjusted R^2	0.16		
N	236		

$$Restate_i = \beta_0 + \beta_1 AQd_i + \beta_2 Size_i + \beta_3\ AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\ CEO\_involve_i + \beta_7\ Industry_i + \varepsilon_i$$

Panel E	*Restate*		
Variables	Coefficient	P-value	Odds ratio
Intercept	-1.01	0.69	0.36
AQd	**-1.49**	**0.00**	**0.23**
Size	0.29	0.39	1.34
AuditComm	-0.17	0.59	0.84
Complex	-0.03	0.15	0.97
ROA	-0.63	0.52	0.53
CEO_involve	-0.15	0.67	0.86
Adjusted R^2	0.18		
N	196		

$$Restate_i = \beta_0 + \beta_1 AQe_i + \beta_2 Size_i + \beta_3\ AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\ CEO\_involve_i + \beta_7\ Industry_i + \varepsilon_i$$

Panel F	*Restate*		
Variables	Coefficient	P-value	Odds ratio
Intercept	-3.00	0.33	0.05
AQe	**-1.21*** **	**0.00**	**0.30**
Size	0.48	0.24	1.62
AuditComm	-0.06	0.88	0.94
Complex	-0.03	0.23	0.97
ROA	0.40	0.63	1.49
CEO_involve	-0.21	0.58	0.81
Adjusted R^2	0.13		
N	138		

Note: ***, **, Significant at 1% and 5% significance level, respectively. This table presents regression results for the relationship between audit quality and financial reporting restatements (*Restate*$_i$). The regressions include unreported industry dummy variables
Restate$_i$ = one if a firm restates its reported financial statements, and zero otherwise.

The results of Hypotheses 6a and 6b together reflect the institutional setting of Kuwait. The weak regulatory system and no-tax environment make it possible for auditors to be less concerned with earnings management. They may even participate in the earnings manipulation process to ensure their clients' satisfaction, particularly if this manipulation is within GAAP. Recently, Kuwait Accountants and Auditors Association (KAAA) raised the issue of auditor independence and the need for mandatory auditor rotation. It issued a report indicating that external auditors maintain close personal relationship with their clients' management. This is driven by the family system and small number of listed firms in Kuwait. KAAA suggested auditor mandatory rotation to improve auditor independence and make auditors focus more on shareholder's needs (Alanbaa, 2014). However, higher quality audit firms are equipped with the expertise and knowledge to ensure there is no GAAP violation. GAAP violations that are announced later by restatements may have a negative effect on auditors' reputations in the long term.

This conclusion reflects the discussion in Section 2.6 of a continuum of FRQ that ranges from very low quality that violates GAAP to low and high quality within GAAP. The variation of FRQ within GAAP can be explained by exploring what constitutes FRQ. Hicks (2014) questions whether a quality financial report is one that complies with standards and regulations, one that satisfies users' needs or one that meets the IASB's objectives of financial reporting. The IASB (2013) specifies that the objective of financial reporting is to provide 'financial information about the reporting entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity' (p. 20). Such a definition requires a quality financial report to meet the different needs of a wide array of users (Hicks, 2014). Therefore, external auditors (who are usually consulted during the preparation of financial reports) are under pressure to use different means (such as conservative or aggressive accounting) to satisfy the more powerful financial reports users.

The level of law enforcement and quality of regulation also play an important role in the quality of auditors' work in Kuwait. The weaker law enforcement allows the other factors that affect the quality of reported information, such as ownership structure, to influence and pressure the financial report preparation process (Holthausen, 2009). Moreover, the no-tax environment in Kuwait weakens government agencies' role in monitoring the quality of reported financial information. When there is a tax system, the government has an interest in accurate financial information and is motivated to prevent insiders from expropriation behaviour (Hanlon, Hoopes & Shroff, 2014). Alanezi (2006) finds that, for a period of more than 25 years, there has been only one litigation case against auditors in Kuwait. This demonstrates that, although there is relatively good regulation in Kuwait to discipline auditors, the low level of enforcement encourages external auditors to be less concerned about the output of their work (Alfaraih, 2009). This results in the production of audited financial information that deviates from providing true and honest information about the company to providing information that is misleading and in favour of the large stockholders (Kim & Yi, 2006). This manipulated financial information hides the larger stockholders' expropriation behaviour of other shareholders' interests.

5.4 SENSITIVITY ANALYSIS

This section assesses the robustness of Hypotheses 1, 2, 3, 4 and 6. Alternate variables for institutions, government, family and royal family ownership and FRQ are used to test the sensitivity of the original results.

5.4.1 ALTERNATE OWNERSHIP MEASURE

This study uses alternate measures to represent institutions, government, family and royal family ownership. The four variables that represent the four types of ownership are measured as the percentage of shares owned by each type of owners, which is consistent with proxies used by prior research (Claessens et al., 2000). An alternative approach is to follow the model outlined by Francis et al. (2009) and focus on the major shareholder. The alternative measurement is based on which ownership type has the largest shareholding in a company, and the appropriate indicator variable is coded 'one'. This alternative measurement is based on the argument that the board of directors in Middle Eastern companies usually represents the largest owners of the firms (Mujtabo, 2011). Therefore, the major shareholders have the incentive and ability to influence decisions regarding the quality of the external audit employed. The alternative ownership measurements are as follows:

$Instit\_maj_i$ = one if institutions are the major investors, and zero otherwise

$Passive\_maj_i$ = one if banks and insurance companies are the major investors, and zero otherwise

$Active\_maj_i$ = one if foreign and mutual funds are the major investors, and zero otherwise

$Govt\_maj_i$ = one if government agencies are the major investors, and zero otherwise

$Family\_maj_i$ = one if a family is the major investor, and zero otherwise

$Royal\_ maj_i$ = one if the royal family are the major investors, and zero otherwise.

The results for the ordinal and logistic estimations that use alternate ownership structure measures are reported in Tables H-1 to H-5 in Appendix H.

The results using the new ownership measurement show a similar pattern to the results obtained with the original ownership measurement. The relationship between

Instit_maj; joint audit quality (*AQ*); and joint audit partitions *AQa, AQc, AQd* and *AQe* is positive and significant at 5, 10, 1, 5 and 5%, respectively. The results indicate that firms with institutional owners as the largest shareholder are more likely to employ a higher quality joint audit. This reflects the premise that, because of the size of their financial interest and their independence, institutional owners have an incentive to bear the cost of management monitoring.

The results of *Passive_maj* and *Active_maj* show the same pattern as the original results of active and passive institutional owners, which provides support to the argument that institutional owners are not homogenous. The results for *Passive_maj* are not statistically significant for all joint audit partitions, while the results of *Active_maj* show that active institutional ownership is positively associated with joint audit quality (*AQ*) and joint audit partitions *AQa, AQc, AQd* and *AQe,* at the 5% significance level.

The results for *Govt_maj* align with the original results about the relationship between government ownership and joint audit quality. The new measurement of government ownership shows a positive relationship with *AQ* and *AQa, AQc, AQd* and *AQe,* but the results are not statistically significant. This result does not support the expected negative relationship between government ownership and audit quality.

The results for *Family_maj* and *Royal_maj* show similarities with the original results. The relationship between *Family_maj* and joint audit partitions *AQc, AQd* and *AQe* is negative (odds ratio < 1) and significant at 5, 10 and 10%, respectively. The results for *Royal_maj* also indicate a negative relationship with audit quality (*AQ*) and audit partitions *AQa* and *AQc,* but the relationship is not statistically significant. Thus, the family ownership results support the argument that firms with greater family ownership are less likely to employ a higher quality joint audit because of the low level of information asymmetry between the firms' management and owners.

5.4.2 ALTERNATE FRQ VARIABLE

Hypothesis 6a posits that FRQ is related to audit quality. The results presented in Table 5-11 demonstrate no evidence that different audit quality partitions affect accruals quality (*Accrul*). This study further examines the relationship between audit quality and *Accrul* by partitioning the latter into innate and discretionary components (Dechow & Dichev, 2002; Francis, LaFond, Olsson & Schipper, 2005). The notion of separating the accruals quality into innate and discretionary accruals develops from the competing

views about the effect of audit quality on the role of discretionary accruals. One strand of research argues that discretionary accruals occur due to opportunistic and self-interested behaviour; thus, firms use higher quality external auditing to signal the credibility of reported financial information and reduce discretionary earnings management (Becker et al., 1998; Francis et al., 1999; Srinidhi & Gul, 2007). The other view argues that the discretionary component of accruals quality signals performance information and reduces information asymmetry. This view argues that the discretionary component of the accruals contains three subcomponents: performance, opportunism and noise (Guay et al., 1996).

The performance subcomponent reflects management's attempt to report the firm's underlying performance in a reliable and timely manner and is expected to reduce information asymmetry and increase transparency. In contrast, the opportunistic and noise subcomponents reflect the management's use of accruals to hide poor performance and expropriate wealth from other parties. Guay et al. (1996) suggest that the discretionary component of accruals is largely not comprised of noise; thus, the performance and opportunism subcomponents dominate the noise component. However, Francis et al. (2005) note that, given that the practice of firms engaging in discretionary accruals has occurred for centuries, the net effect of discretionary accruals is to let managers communicate their private information and enhance the ability of earnings to reflect the underlying economic value. The findings of Aldamen and Duncan (2013) support the argument that discretionary accruals signal performance information and reduce information asymmetry. Krishnain's (2003) results indicate that higher quality audit firms are able to enhance the credibility of reported accruals by minimising noise in reported discretionary accruals and improving the value of information embedded in discretionary accruals.

Innate accruals are driven by the innate features of a firm's business model and operating environment, while discretionary accruals occur due to accounting choices, implementation decisions and managerial error (Francis et al., 2005). The innate portion of accruals quality comprises five innate factors, identified by Dechow and Dichev (2002) and Francis et al. (2005): firm size, standard deviation of cash flow from operations, standard deviation of sales revenue, length of operating cycle and earnings loses. Using these factors, the following model is calculated:

$$AQual_j = \beta_0 + \beta_1 Size_j + \beta_2 \sigma(CFO)_j + \beta_3 \sigma(Sales)_j + \beta_4 OpCyle_j + \beta_5 NegEarn_j + \varepsilon_j$$

(5-1)

where, for firm j, $AQual_j$ is the industry based accruals quality measure; $Size_j$ is the log of total assets; $\sigma(CFO)_j$ is the standard deviation of cash flow from operation (scaled by total assets) over the past five years; $\sigma(Sales)_j$ is the standard deviation of sales (scaled by total assets) over the past five years; $OpCyle_j$ is the log of the sum of days accounts receivable and days inventory; and $NegEarn_j$ is the number of years out of the past five where reported net profit before abnormal items has been negative. The predicted values from Equation 5-1 are the estimated innate component of the jth firm's accruals quality, $Innate_j$, as represented in the following model:

$$Innate_j = \hat{\beta}_0 + \hat{\beta}_1 Size_j + \hat{\beta}_2 \sigma(CFO)_j + \hat{\beta}_3 \sigma(Sales)_j + \hat{\beta}_4 OpCyle_j + \hat{\beta}_5 NegEarn_j$$

The residual, ε_j, from the equation is the estimated discretionary component of the jth firm's accruals quality, $Discr_j$, as follows:

$$Discr_j = \hat{\varepsilon}_j$$

The summary statistics for $Innate_i$ and $Discr_i$ are presented in Tables H-7 and H-8 in Appendix H. The tables show that the mean for innate accruals is 0.81, while the mean for discretionary accruals is 0.0000003. The ANOVA results indicate that *Discr* and *Innate* means for the industry sectors are not statistically different to each other.

To further investigate the relationship between $Accrul_i$ and audit quality, this study replaces $Accrul_i$ with the two components accruals: $Innate_i$ and $Discr_i$. As shown in Table 5-13, $Innate_i$ and $Discr_i$ are negatively associated with audit quality *AQ* and audit partitions *AQa*, *AQb*, *AQc* and *AQd*, but these associations are not statistically significant. These results align with the original results of the relationship between chosen audit quality and FRQ.

Table 5-13 Estimated Joint Audit Quality and Discretionary and Innate Accruals Components

$$DiscAcc_i = \beta_0 + \beta_1 \widehat{AQ}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

$$Innate_i = \beta_0 + \beta_1 \widehat{AQ}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

Panel A	Discretionary accruals		Innate accruals	
Variables	Coefficient	p-value	Coefficient	p-value
AQ^	-0.146	0.699	-0.018	0.833
Size	-0.124	0.853	-0.102	0.508
AuditComm	1.970	0.209	0.184	0.608
Complex	-0.039	0.670	-0.004	0.848
ROA	1.339	0.510	-1.339	0.005
CEO_involve	0.032	0.984	-0.376	0.317
Leverage	-0.349	0.649	0.043	0.804
Adjusted R^2	0.043		0.871	
N	117		117	

Panel B

$$DiscAcc_i = \beta_0 + \beta_1 \widehat{AQa}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

$$Innate_i = \beta_0 + \beta_1 \widehat{AQa}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

Variables	Coefficient	p-value	Coefficient	p-value
AQa^	-0.489	0.648	-0.058	0.799
Size	-0.172	0.789	-0.061	0.643
AuditComm	2.095	0.217	0.160	0.673
Complex	-0.037	0.671	-0.005	0.739
ROA	1.632	0.473	**-1.381*** **	**0.005**
CEO_involve	0.223	0.887	-0.350	0.308
Leverage	-0.270	0.748	-0.057	0.770
Adjusted R^2	0.040		0.876	
N	117		117	

Panel C

$$DiscAcc_i = \beta_0 + \beta_1 \widehat{AQb}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

$$Innate_i = \beta_0 + \beta_1 \widehat{AQb}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

Variables	Coefficient	p-value	Coefficient	p-value
AQb^	0.912	0.595	-0.186	0.618
Size	0.77	0.380	-0.099	0.604
AuditComm	-1.703	0.366	0.390	0.341
Complex	-0.032	0.788	-0.017	0.506
ROA	-6.046	0.274	-1.386	0.249
CEO_involve	-2.368	0.213	0.028	0.944
Leverage	-1.456	0.300	-0.017	0.953
Adjusted R^2	0.057		0.851	
N	64		64	

Panel D

$$DiscAcc_i = \beta_0 + \beta_1 \widehat{AQc}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

$$Innate_i = \beta_0 + \beta_1 \widehat{AQc}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

Variables	Coefficient	p-value	Coefficient	p-value
AQc^	-0.230	0.847	-0.095	0.752
Size	-0.194	0.752	-0.099	0.526
AuditComm	1.811	0.249	0.218	0.581
Complex	-0.028	0.751	-0.005	0.798
ROA	1.259	0.518	**-1.347*** **	**0.007**
CEO_involve	0.146	0.926	-0.397	0.322
Leverage	-0.372	0.618	0.051	0.784
Adjusted R^2	0.045		0.859	
N	117		117	

Panel E

$$DiscAcc_i = \beta_0 + \beta_1 \widehat{AQd}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

$$Innate_i = \beta_0 + \beta_1 \widehat{AQd}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

Variables	Coefficient	p-value	Coefficient	p-value
AQd^	-0.285	0.776	-0.143	0.669
AuditComm	-0.289	0.605	-0.090	0.626
Complex	1.942	0.189	0.348	0.479
ROA	-0.037	0.638	-0.013	0.613
CEO_involve	1.619	0.410	**-1.47****	**0.026**
Leverage	-0.025	0.986	-0.494	0.331
Adjusted R^2	0.066		0.795	
N	109		109	

Panel F

$$DiscAcc_i = \beta_0 + \beta_1 \widehat{AQe}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

$$Innate_i = \beta_0 + \beta_1 \widehat{AQe}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

Variables	Coefficient	p-value	Coefficient	p-value
AQe^	0.470	0.648	0.171	0.593
AuditComm	-0.164	0.859	-0.375	0.198
Complex	2.006	0.246	-0.171	0.749
ROA	-0.077	0.611	0.048	0.314
CEO_involve	1.881	0.461	-1.250	0.119
Leverage	1.208	0.477	-0.391	0.460
Adjusted R^2	0.059		0.730	
N	78		78	

Note: ***, **, *, Significant at 1, 5 and 10% significance level, respectively. Sargent test results indicate the validity of instruments variables used in the second stage of regression analysis (10 < p < 6)

This table presents the regression results for the relationship between both estimated audit quality and FRQ proxies: discretionary and innate components of accruals. The regressions include unreported industry dummy variables

AQ_i is an ordinal audit quality from 1 to 6, where AQ_i = 6 represents the highest audit quality and AQ_i = 1 represents the lowest audit quality.

AQa_i= one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero otherwise

AQb_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero if audit pair has one Big N and one local auditor

AQc_i= one if audit pair has at least one Big N auditor, and zero if audit pair has no Big N auditor

AQd_i = one if audit pair includes EY and/or DT, and zero otherwise

AQe_i= one if audit pair has one Big N and one internationally affiliated auditor, and zero if audit pair has two internationally affiliated auditors or one internationally affiliated and one local auditor.

5.5 SUMMARY

This chapter presents the results from the multivariate analysis of six hypotheses. The results are summarised in Table 5-14. Hypothesis 1a states that companies with greater institutional investors are more likely to employ a higher quality joint audit. This hypothesis is supported. Hypothesis 1b states that companies with greater bank and insurance company ownership are less likely to employ a higher quality joint audit. This is also supported. Hypothesis 1c states that companies with greater mutual fund and foreign investor ownership are more likely to employ a higher quality joint audit. This is also supported.

Hypothesis 2 states that companies with greater government ownership are less likely to employ a higher quality joint audit. The results show a positive association between greater government ownership and joint audit quality; therefore, Hypothesis 2 is not supported. A further examination indicates that the driver of the positive relationship between joint audit quality and government ownership is the characteristics of the firms with government ownership—specifically, the size of the firm.

Hypothesis 3 states that there is a relationship between the level of family ownership and joint audit quality. The results suggest that firms with higher level of family ownership are negatively associated with chosen joint audit quality; thus, the hypothesis is supported and indicates a negative relationship. Hypothesis 4 examines the relationship between chosen joint audit quality and a sub-class of family ownership: royal family ownership. The hypothesis posits there is a negative relationship between royal family ownership and chosen joint audit quality. The results show a negative association between royal family ownership and chosen audit quality but it is not significant; thus, Hypothesis 4 is rejected.

Hypothesis 5 posits that companies that adopt Islamic business principles are associated with a higher chosen joint audit quality. The hypothesis is separated into two hypotheses. Hypothesis 5a states that companies adopting Islamic business principles (SSB and Islamic-compliant firms) are more likely to employ higher quality joint audit. Hypothesis 5b states that, among companies adopting Islamic business principles, firms with SSBs are more likely to employ a higher quality joint audit. The results suggest that adopting Islamic business principles is positively associated with a higher audit quality in some of the joint audit partitions; thus, Hypothesis 5a is partially supported.

However, the results show that firms that adopt SSBs in their organisational structures are associated with a higher quality joint audit; thus, Hypothesis 5b is supported.

Hypothesis 6 posits that the chosen joint audit quality is associated with FRQ. The hypothesis is separated into two hypotheses. Hypothesis 6a states that a higher joint audit quality is negatively associated with earnings management. Hypothesis 6b states that a higher joint audit quality is negatively associated with restatement. Hypothesis 6a aims to examine the effect of chosen joint audit quality on FRQ within GAAP, while Hypothesis 6b examines FRQ that violates GAAP by examining the association between chosen joint audit quality and firms' financial information restatements. The results do not support Hypothesis 6a because although the negative relationship between chosen joint audit quality and earnings quality is negative, it is not significant. However, they support Hypothesis 6b that chosen joint audit quality is negatively associated with financial reporting restatements.

Table 5-14 Summary of the Study's Results

	Hypothesis	Outcome
H1a	Companies with greater institutional investor ownership are more likely to employ a higher quality joint audit.	**Supported**
H1b	Companies with greater bank and insurance company ownership are less likely to employ a higher quality joint audit.	**Supported**
H1c	Companies with greater mutual fund and foreign investor ownership are more likely to employ a higher quality joint audit.	**Supported**
H2	Companies with greater government ownership are less likely to employ a higher quality joint audit.	Not supported
H3	There is a relationship between the level of family ownership and joint audit quality.	**Supported**
H4	Companies with greater royal family ownership are less likely to employ a higher quality joint audit.	Not supported
H5a	Companies adopting Islamic business principles (SSB and Islamic-compliant firms) are more likely to employ a higher quality joint audit.	Partially supported
H5b	Among companies adopting Islamic business principles, firms with an SSB are more likely to employ a higher quality joint audit.	**Supported**
H6a	Higher joint audit quality is negatively associated with earnings management.	Not supported
H6b	Higher joint audit quality is negatively associated with restatement.	**Supported**

Chapter 6: Discussion and Conclusion

6.1 INTRODUCTION

This thesis contributes to an understanding of the links between corporate governance, joint audit quality and FRQ. The scope of this research has mainly focused on the effect of four types of ownership (institutional, government, family and royal family) and Islamic business principle adoption on chosen audit quality in an environment of joint audit requirement, and how this affects the quality of financial reporting. The previous chapters have provided the theoretical foundation for the FRQ drivers and the econometric approach used to obtain the results. This chapter presents a summary of the study, including its objectives and motivations and the theory and methods used to answer the primary question underlying the examination of the FRQ drivers. It also discusses the results and their implications and provides a conclusion to the study. Finally, this chapter presents an overview of the limitations of this research to acknowledge the various constraints surrounding this topic, and identifies areas for further research.

This chapter is organised as follows. Section 6.2 discusses the results of the study, Section 6.3 outlines the contributions and implications of this research and Section 6.4 presents the limitations of the study. Section 6.5 addresses a number of opportunities for future research, and Section 6.6 presents the conclusion.

6.2 DISCUSSION OF RESULTS

This study has addressed two main questions. The first investigates the relationship between corporate governance structure and the chosen joint audit quality for Kuwaiti listed companies. The second addresses the influence of the choice of joint audit quality on FRQ. To examine the first question, this study examined Kuwaiti firms' ownership structure and adoption of Islamic business principles. Four hypotheses were developed to examine the relationship between four owner types (institutional, government, family and royal family) and the chosen joint audit quality, and one hypothesis was designed to examine the effect of Islamic business principle adoption on the chosen joint audit quality. The last hypothesis was developed to test the second

question by determining the effect of chosen joint audit quality on earnings quality and financial reporting restatements.

Hypothesis 1 focused on the relationship between institutional ownership and chosen joint audit quality, while Hypothesis 2 centred on the relationship between government ownership and chosen joint audit quality. Hypothesis 3 sought to determine whether there is a relationship between family ownership and chosen joint audit quality. Hypothesis 4 questioned the relationship between royal family ownership and joint audit quality. Hypothesis 5 centred on the relationship between adopting Islamic business principles and joint audit quality. Finally, Hypothesis 6 examined the relationship between chosen joint audit quality and FRQ.

Hypothesis 1 was separated into three hypotheses. Hypothesis 1a stated that companies with greater institutional investor ownership are more likely to employ a higher quality joint audit, while Hypothesis 1b stated that Companies with greater bank and insurance company ownership are less likely to employ a higher quality joint audit and Hypothesis 1c stated that companies with greater mutual fund and foreign investor ownership are more likely to employ a higher quality joint audit. The results support Hypothesis 1a and indicate that firms with greater institutional ownership are associated with higher quality audit pairs. The findings indicate that firms with greater institutional owners are more likely to choose a joint audit that includes higher quality audit firms, such as Big N and internationally affiliated auditors, than those with no or a small percentage of institutional ownership. This result supports the argument that, due to their size and independence, institutional investors have the power and motivation to provide monitoring and control of corporate management. This provides support to the agency theory argument that firms with a greater separation of owners and control tend to use higher quality governance mechanisms to ensure the alignment of the owners' and managements' incentives.

Similar results are reported by Abdul Wahab, Zain, James and Haron (2009) and Kane and Velury (2004), who conclude that there is a positive association between the presence of institutional investors and audit quality. Further, in a joint audit requirement setting, Francis et al. (2009) find that higher quality audit pairs are more likely to be employed as institutional ownership increases by banks and pension funds. However, the results of this study contrast those of Adelopo, Jallow and Scott (2012) and Mitra, Hossain and Deis (2007), who report negative associations between institutional

ownership and audit quality, as indicated by audit fees. The conflicting results of the relationship between audit quality and institutional ownership occurs because there is variation in defining 'institutional investors', as noted in Chapter 2. In addition, institutional investors are not homogenous in their motivation and incentives in relation to firms' monitoring.

The non-homogenous nature of institutional investors is addressed in Hypotheses 1b and 1c. The study results support both hypotheses and indicate that institutional investors are non-homogenous. This study considers banks and insurance companies passive institutional investors because they have access to more private information and maintain a close relationship with the management of the investee firms; thus, they act as grey institutional investors and do not require as high a quality of external audit as do mutual funds and foreign investors. Mutual funds and foreign investors are considered active institutional investors. The lack of close relationships with the management of the investee firms increases information asymmetry between mutual funds and foreign investors and managers, which leads to a need for higher quality audits.

The results of Hypotheses 1b and 1c align with Liu and Peng's (2008) finding that different types of institutional investors have different effects on the quality of reported financial information. Further, Aggarwal et al. (2011) find that there is variation in the effect of institutional investors on the level of governance based on whether institutions are foreign or domestic. Therefore, the results of Hypotheses 1b and 1c supports the notion that institutional investors are a non-homogenous group of investors and that variations in the concept of 'institutional investor' obscure critical differences between various institutions.

The relationship between government ownership and joint audit quality was evaluated by testing Hypothesis 2. The results show that greater government ownership is positively related to joint audit quality, which contrasts with the expected negative relationship between the variables. A possible explanation for this is the size of companies with government ownership. In the late 1990s, the Kuwait government underwent a privatisation process to eliminate small, unprofitable companies and concentrate ownership in large, well-established firms (Al-Rifai, 2006; KAMCO, 2012). Therefore, Kuwait government ownership is associated with large companies. The ANOVA test results show that the means for firm size with and without government ownership are statistically different. Large firms are characterised by having complex

audit needs that require higher quality audit pairs to fulfil their needs. Moreover, higher quality audit pairs are relatively less expensive to large firms as a percentage of revenue. Therefore, the result of Hypothesis 2 is driven by the characteristics of the firms with government ownership.

Hypothesis 3 states that there is a relationship between the level of family ownership and joint audit quality. This non-directional hypothesis was developed because of the competing theoretical arguments and alternative prediction of empirical research of the relationship between family ownership and chosen audit quality. The study results support Hypothesis 3 and provide evidence that there is a negative association between the level of family ownership and joint audit quality, thereby demonstrating that family ownership is associated with an entrenchment effect. Families who own large stakes in firms may be incentivised to expropriate wealth from other shareholders by imposing lower quality corporate governance. To capture the effect of family ownership, this study uses the pyramidal ownership structure in Kuwait. As in most Middle Eastern countries, family investors in Kuwait use pyramidal ownership to control more firms for a lower investment. By using the pyramidal ownership structure, this study contributes to the Middle Eastern family business literature.

To capture the pyramidal ownership structure in Kuwait, this research follows Claessens et al.'s (2002) model and uses two variables to separate family ownership and family control of the investee firms. Separation between family ownership and control provides additional insights to the relationship between the structure of family ownership and the quality of chosen audit pairs. The results of the family ownership variable show an insignificant negative relationship between family ownership and joint audit quality, while the results of the family control variable show a significant negative relationship with joint audit quality. This supports the results obtained by prior studies that examine the association between family ownership and joint audit quality. Francis et al. (2009) show that, in an environment of mandatory joint audits, firms with greater family ownership are negatively associated with joint audit quality. Similar results are reported by Ho and Kang (2013), who find that family firms are less likely to hire higher quality auditors. Additionally, Niskanen et al. (2010) show that, as family ownership increases, the likelihood of hiring a Big N auditor decreases.

The relationship between the level of royal family ownership and joint audit quality was examined by testing Hypothesis 4. The results of this study do not support

Hypothesis 4, which states that companies with greater royal family ownership are less likely to employ higher quality joint audit firms. By using a sub-class of family ownership, this study contributes to the Middle Eastern family business literature a variable that captures a special type of families who enjoy a higher level of power and are more connected with political decision makers in the country.

Hypothesis 5 examines the relationship between adopting Islamic business principles and joint audit quality. The hypothesis is divided into two sub-hypotheses. Hypothesis 5a states that firms that adopt Islamic business principles by having an SSB or being Islamic compliant are more likely to employ higher joint quality audits. Hypothesis 5b states that, among companies adopting Islamic business principles, firms with an SSB are more likely to employ higher quality joint audits. The results from Hypothesis 5 suggest that implementing Islamic business principles may generate more benefits to shareholders by implementing higher quality corporate governance mechanisms, such as employing higher quality joint audits. Moreover, among firms adopting Islamic business principles, firms with SSBs are more considerate of the quality of the chosen joint audit. The findings indicate partial support of Hypothesis 5a and support of Hypothesis 5b. The results of Hypothesis 5 align with Chapra and Ahamd (2002) and Archer et al. (1998), who argue that Islamic institutions use external audits as a mechanism to reduce agency problems and improve the transparency of financial reporting.

Hypothesis 6 examines the relationship between chosen joint audit quality and financial audit quality. The hypothesis is partitioned into two sub-hypotheses. Hypothesis 6a states that higher joint audit quality is negatively associated with earnings management, while Hypothesis 6b states that higher joint audit quality is negatively associated with restatement. Earnings management and financial information restatements are used as proxies of FRQ to capture the continuum of FRQ, as suggested by Dechow and Skinner (2000). The results indicate that, within GAAP, the quality of financial reporting is not affected by the quality of chosen audit pairs, which does not support Hypothesis 6a. The theorised effect of joint audit quality on FRQ is tested by using 2SLS estimation, where firms' ownership structure is used as the instrument of joint audit quality. A possible explanation of the insignificant negative relationship between joint audit quality and FRQ is the institutional setting of Kuwait, where the audit market is very small and auditors enjoy a very low litigation risk. Alanezi (2006)

argues that, because of the small size of the audit market and high level of competition, external auditors build strong business relationships with firms' management and large blockholders, and are more considerate of firms' management's needs, rather than minority shareholders' expectations. Moreover, the low risk of litigation in Kuwait provides incentives to auditors to compromise their independence (Alanezi, 2006). However, the results suggest that the negative (although not significant) relationship between FRQ and chosen joint audit quality is in accordance with Francis et al. (2009), who show that a higher level of audit quality is positively associated with FRQ by minimising earnings management behaviour.

Sensitivity analysis splits accruals quality into innate and discretionary components and tests the relationship between these components to chosen joint audit quality in a way similar to Kent et al. (2009) and Davidson et al. (2005). The sensitivity analysis results suggest that the innate and discretionary accruals aspects of accruals quality are negatively associated with chosen joint audit quality, but this relationship is statistically not significant. These results are similar to the findings of Davidson et al. (2005), which show that a reduction in the level of discretionary accruals is not significantly related to the choice of audit quality. However, Kent et al. (2009) state that sound governance structures and accrual quality are stronger for innate than for discretionary accruals. They find that external audit quality explains only the innate portion of accruals quality, while external audit quality is not reported to affect the level of discretionary portion of accruals quality. The results from Kent et al. (2009) and Davidson et al. (2005) agree with the findings of the current study in terms of the relationship between chosen audit quality and discretionary accruals. However, the current study is dissimilar in sense that using estimated audit quality variable based on ownership structure.

The study results indicate that restatements of announced financial information are negatively associated with the quality of joint audit, thus supporting Hypothesis 6b. In this thesis, restatements were used to capture the case of very low financial reporting that violates GAAP. The results suggest that higher quality joint auditors are refraining to be associated with non-GAAP financial statements. A possible explanation for this is that higher quality joint auditors are equipped with the expertise and knowledge to prevent GAAP violation. Additionally, auditors' reputation can be damaged if they are associated with GAAP violations that lead to restatements. In an economy where

litigation does not provide auditors with incentives to deliver quality, auditor reputation plays an important role in enhancing auditor quality (Skinner & Srinivasan, 2012). However, the results suggest that the negative relationship between FRQ and chosen joint audit quality aligns with Francis et al. (2013a), who show that a higher level of audit quality is negatively associated with restatements indicating lower FRQ.

6.3 CONTRIBUTIONS AND IMPLICATIONS

This research has several theoretical, practical and regulatory implications. These implications represent the contributions of the study that are expected to add to the corporate governance and audit quality literature, as well as to the market, via financial advisers, stocks brokers and regulators.

6.3.1 THEORETICAL IMPLICATION

One of the important contributions to the existing body of literature is examining the effect of ownership structure on the quality of a chosen joint audit within a voluntary governance regime. This study adds to the audit quality literature by investigating the unique corporate governance requirement in Kuwait, in which listed firms are audited by at least two auditors, who issue a single, jointly signed audit report. This study shows that this joint audit requirement provides listed firms with more options regarding audit quality because a combination of Big N, local and internationally affiliated audit firms can be chosen. This is different to the usual Big N/non–Big N dichotomy that occurs in a single audit regime. Further, examining the effect of ownership structure on chosen joint audit quality supports agency theory applicability in a developing country, in which firms with more information asymmetry tend to use a higher level of governance mechanisms, such as high-quality auditors, in order to minimise agency problems. The overall results show that high-quality joint audits are more likely to be used when there is higher level of institutional and government ownership, and lower level of family ownership.

This research is among only a few studies that distinguish between active and passive institutions. One of the vital theoretical contributions of this study centres on the argument that institutional investors are not homogenous. The results show that institutional investors' incentives and characteristics affect their attitudes towards the monitoring mechanisms employed. This has implications for the institutional ownership literature. The contradicting results in the literature concerning the effect of institutional

investors on audit quality can be explained by examining the types of institutional investors tested.

This research contributes to the Middle Eastern family business literature by examining the effect of pyramidal ownership structure on the quality of chosen joint audit. The pyramidal ownership structure literature mainly focuses on Continental Europe and East Asian countries, and covers different topics, such as separation of ownership and control, firm performance and ownership structure, and the tunnelling effect of the pyramidal structure (Barontini & Caprio, 2006; Claessens et al., 2000; Lemmon & Lins, 2003; Riyanto & Toolsema, 2008). Distinguishing between family ownership and control provides more insights to the influence of family ownership on the governance mechanisms adopted. The study results show that the level of quality of the chosen joint audit is not only driven by the existence of family ownership, but also by the level of control the family enjoys.

Finally, the current study's theoretical assumption of the effect of Islamic principle adoption, both in general and by using an SSB, differ from prior literature. The prior Islamic business literature primarily focuses on the Islamic financial institutions that, by default, are more adherent to Islamic business principles and have an SSB in their organisational structure (Grais & Pellegrini, 2006a, 2006b; Safieddine, 2009). In contrast, this study sample includes all firms from different market sectors that have adopted Islamic business principles, except the bank sector. The results show that adopting Islamic business principles is associated with the quality of joint audits, which affects the quality of financial reports. Moreover, the study's findings confirm that, among Islamic firms, there is a difference in adopting Islamic business principles in general, and making Islamic business principles a core element of the business. This approach of distinguishing between Islamic firms based on the level of application of Islamic business principles could benefit future research that examines the influence of Islamic business principles on firms' affairs. In addition, examining Islamic business principles' effect on the quality of the financial reporting process contributes new research opportunities to the corporate governance literature. This includes how integrating regular governance mechanisms and people's spiritual attitudes can produce a higher quality corporate governance environment.

6.3.2 PRACTICAL AND REGULATORY IMPLICATIONS

The results of this study suggest that ownership structure and adopting Islamic business principles in Kuwaiti listed firms affect the quality of the chosen joint audit. This effect is driven by the type of ownership. Investment professionals in Kuwait, such as financial advisers and stockbrokers, can draw on the results of this study to advise their clients in an informed manner. Investment professionals play important financial advisory roles, both as buy-side and sell-side analysts. In Kuwait, investment professionals use their expertise and experience to evaluate and locate good investment opportunities and provide advice to individuals and organisations (Chaudhry & Alansari, 2013). Investment professionals can use this study's results to advise their clients to consider firms with an ownership structure that is positively associated with higher quality joint auditors.

The results from this research could also assist regulators in the Kuwaiti Ministry of Commerce and CMA in understanding the importance of enforcing minimum corporate governance requirements. Kuwait is among only few countries that do not issue a code for corporate governance mechanisms to control listed firms' actions and minimise management's expropriation behaviour. In June 2013, the CMA issued a suggested corporate governance code that raised much debate in the Kuwaiti market about the applicability of this code to Kuwait's business environment. Part of the suggested code requires listed firms to be audited by a registered audit office with at least 10 years of experience in the Kuwaiti market, as well as mandatory auditor rotation every four years. Moreover, the code requires all audit office auditors be certified by international accounting organisations. The CMA proposed the end of 2014 as a deadline for listed firms to implement the suggested governance code. However, because of pressure from the listed firms and audit offices and complaints that this did not allow enough time to comply with the new governance code, the CMA extended the deadline and gave the listed firms until the end of June 2016 to comply with the new regulations.

6.4 LIMITATIONS

The findings of this study must be examined in the context of its limitations. First, the study findings are based on Kuwaiti listed firms, which introduces a potential bias in terms of the effects on internationalisation, and thereby limits the generalisability of the

findings to other countries. Due to Kuwait's joint audit requirement, voluntary corporate governance, and accounting and cultural environment, generalising the findings of this study to other markets should be done with care. As well as institutional factor differences, the KSE may exhibit unique characteristics in terms of its number of listed companies, size, maturity and market capitalisation. All these factors may limit the study's application to other markets.

The second limitation is related to the audit fees data. In Kuwait, there is no requirement for listed firms to report audit fees and, because of the small size of the market and high competition among audit offices, it is common practice not to disclose any information regarding audit and non-audit fees. The audit quality literature shows that audit fees are a major measurement and indication of audit quality. The lack of information about audit fees imposes a limitation on the measurement of audit quality in Kuwait, and it is beyond the scope of this thesis to generate this type of information.

The third limitation is the sample size. Although this thesis incorporates all KSE listed firms, excluding banks, the small sample is subject to an unavoidable size limitation bias. Moreover, the calculation of accruals quality led to excluding financial firms and firms with less than of five years of data. The calculation of accruals quality led to excluding 83 companies from the sample, leaving only 117 firms in the sub-sample. This makes it difficult to compare some of this study's results with results obtained from studies that use large samples.

Fourth, the explanatory variables used in the study were expected to explain variations in the audit quality employed by KSE listed firms and FRQ. However, the possibility always exists that this study may have omitted other factors that would assist in explaining this variation, such as the financial expertise of firms' CEOs, chief financial officers and audit committee members. Due to the nature of the ownership structure in Kuwait and the involvement of families in managing listed firms, there are limitations in obtaining such data.

6.5 FUTURE RESEARCH

The current study's examination of the ownership structure, Islamic business principle adoption, joint audit quality and financial reporting in a developing country with a voluntary governance regime has paved the way for further research. First, the current study could be extended to include Kuwaiti firms not listed in the KSE, where

the joint audit requirement does not apply. It would also be interesting to compare the effect of ownership structure on chosen audit quality with those of other listed firms in other GCC exchanges, since these have similar institutional and legal settings.

Second, future research could focus on overcoming the limitation of the current study due to lack of information about audit fees. A follow-on study could survey audit firms and/or listed firms to collect data about audit and non-audit fees. Such information may provide more insight to the reality of audit pair formation. The expectation is that audit fees vary between audit pair members based on the size, expertise of each auditor and level of involvement of the auditor in fieldwork.

Third, a separate study could focus on other aspects of governance mechanisms. The current study examines the effect of ownership structure on the chosen quality of audit pairs. A future study could examine the effect of ownership structure on other types of governance mechanisms, such as the formation and quality of the audit, remuneration committees, board of director formation and effectiveness, and internal audit function. Another study could examine the voluntary governance practices according to the CMA suggested code of governance, followed by a study completed after the governance code becomes mandatory.

Finally, future research could develop alternative measurements of ownership structure variables. This would entail using measurements to capture blockholders' control of firms' affairs. Further, the study could be conducted over an extended period to assess the relationship between changes of ownership structures and the level of quality of chosen audit pairs.

6.6 CONCLUSION

This thesis has examined the effect of the corporate governance of Kuwaiti listed firms on the quality of the chosen joint audit, and how this may affect FRQ. The focus of this thesis was on the ownership structure and adoption of Islamic business principles as governance mechanisms. Four types of owners (institutional, government, family and royal family) were examined. Different audit pair combinations were used as an indication of audit quality, and earnings quality and restatements were used to examine the quality of financial reporting.

This study proposed six hypotheses and used quantitative methods to examine these. The results indicated that, as information asymmetry between owners and firm management increases (decreases), a higher (lower) quality joint audit is employed. Moreover, the results show that adopting Islamic business principles creates a different set of agency problems that can be addressed by employing a higher quality joint audit. The results also support the notion of a continuum in the quality of financial reporting and that external auditors are less concerned with FRQ if it is within GAAP. Higher quality joint auditors are refraining to be associated with financial reports that violate GAAP. These results reflect the Kuwaiti setting, which is characterised by low enforcement of regulations and a lower level of investor protection.

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Appendices

APPENDIX A: KUWAITI MARKET CONTEXT

Appendix A provides a discussion of important aspects of the Kuwaiti market. The discussion reveals that the Kuwaiti market is a recently developed market with rapid changes and developments to its finances and regulation system. The legal system in Kuwait follows the French civil law regime, with influence from Islamic legal principles. Kuwait adapted IFRS in 1990 and, in 1994, mandated that all listed firms be audited by at least two auditors. Thus far, Kuwait is one of the few Middle Eastern countries not to issue a corporate governance code. The following sections provide further discussion of the Kuwaiti market context.

Kuwaiti Legal Framework

The Kuwaiti legal system reflects the history and culture of the country. The system is an amalgam of French civil law, Islamic legal principles and Egyptian law. Most of the legal codes are influenced by the French system and written and coordinated by Egyptian and Kuwaiti legal scholars (Al-Mutairi, 2002). The history of the legal system in Kuwait is short, with quick changes and developments occurring since 1960 to reflect the rapid increase in business, investment and large government projects following oil discovery and production (Al-Saidi, 2010).

In Kuwait, the evolution of corporate financial reporting began in the early 1960s with the establishment of public corporations and growth of the business sector. By issuing the *Law of Commercial Companies No. 15 (1960),* the MCI took an initial step towards forming a legal environment for undertaking business in Kuwait. This law serves as the fundamental company law, regulating the formation, operation and dissolution of companies, and regulating activities such as the incorporation of companies, corporate governance structures (such as the corporate charter, provisions related to directors and offices, and bylaws), shareholders' rights and responsibilities, capital-raising methods, corporate liquidation, accounts and audits. Moreover, the law provides details related to shareholders, management and general meetings (Al-Saidi, 2010). Concerning accounting issues, the *Law of Commercial Companies No. 15 (1960)* requires that companies prepare an annual report, including a profit and loss account and balance sheet. Companies are required to provide shareholders with a copy of the

balance sheet for the expired financial year, a profit and loss account, and reports of both the directors and auditor. Although several additional laws now regulate Kuwait's accounting and auditing profession to various degrees, the *Law of Commercial Companies* is still considered the primary law governing the accounting and auditing functions of listed companies in Kuwait (Al-Qahtani, 2005).[15]

The KSE regulates and governs the practice of listed firms. The KSE formally opened in August 1983 as an independent financial institution. It exists independently with the right to make and pursue rules to maximise its efficiency (Al-Saidi, 2010). Article No. 5 of the *Ameri Decree (1983)* states that the exchange must be managed by a market committee. The market committee includes members that represent the MCI, Ministry of Finance and Central Bank of Kuwait. The vice president of the committee is the KSE's general director. The market committee includes two experienced and competent members who represent the Kuwait Chamber of Commerce and Industry. The KSE is supervised and regulated by three bodies:

- the market committee, which is responsible for supervising the management of the KSE by issuing rules and regulations, including the structures of the stock exchange, personal system, financial regulations, registration fees, stock exchange dealings and annual subscriptions
- the MCI, which is accountable for licensing market intermediaries and regulating and supervising the primary market
- the Central Bank of Kuwait, which is responsible for supervising banks, investments and exchange companies and mutual funds.

Financial Reporting in Kuwait

The nature of financial reporting in Kuwait is different to other developed countries, and summarised in Figure A-1. Article 93 of Commercial Companies No. 15 (1960) Law requires companies to provide an annual audited balance sheets and profit and loss statements to the MCI and all shareholders. Within two months of the date on which a company's general shareholders meeting approves its statements, directors are required to publish their financial statements for the previous financial year, as well as a list of the names of the directors and auditors, in the official gazette. However, the

[15] Other laws include the *IAS Adoption Law* (Ministerial Resolution, 1990), *Practicing the Audit Profession* (Ameri Decree, 1981), *Regulating Direct Foreign Capital Investment in the State of Kuwait* (Ameri Decree, 2001) and *Joint Audit Requirement* (Ministerial Resolution, 1994).

original Article 93 does not provide guidelines for preparing these statements and does not specify any set of accounting standards that must be followed when preparing such statements. This ambiguity forced listed firms to use different disclosure methods and follow different accounting standards from other countries, such as the US, the UK and neighbouring Arab countries (Shuaib, 1987).

Financial reporting processes improved after issuance of *Resolution No. 8 (1990)*, which mandated all companies in Kuwait to adopt the IAS for financial periods beginning 1 January 1991. In 1994, the KSE issued an amendment to its financial reporting requirements that required listed companies to provide a semi-annual financial statement by 15 August each year. In 1998, a further amendment required listed companies to provide quarterly financial statements within 45 days of the end of each quarter. The IAS adoption in Kuwait led financial reporting towards full disclosure, influenced the development of the accounting profession and increased the volume of professional auditing firms (Alrashed, 2002). Moreover, IAS adoption led to improvements in monitoring and enforcement mechanisms involving auditors and other bodies, such as stock exchanges, central banks and government departments, in the period following adoption (Al-Hussaini, Al-Shammari & Al-Sultan, 2008).

Although there have been major improvements in financial reporting in Kuwait, the IMF (2004) assessment report criticised the regulatory framework of the securities market. The report revealed that the various laws and regulations that govern the market do not form a comprehensive legal framework. The KSE is not operationally independent of external political or commercial interference in the exercise of its regulatory and supervisory functions, and the sanctioning system is insufficient to maintain market order (IMF, 2004).

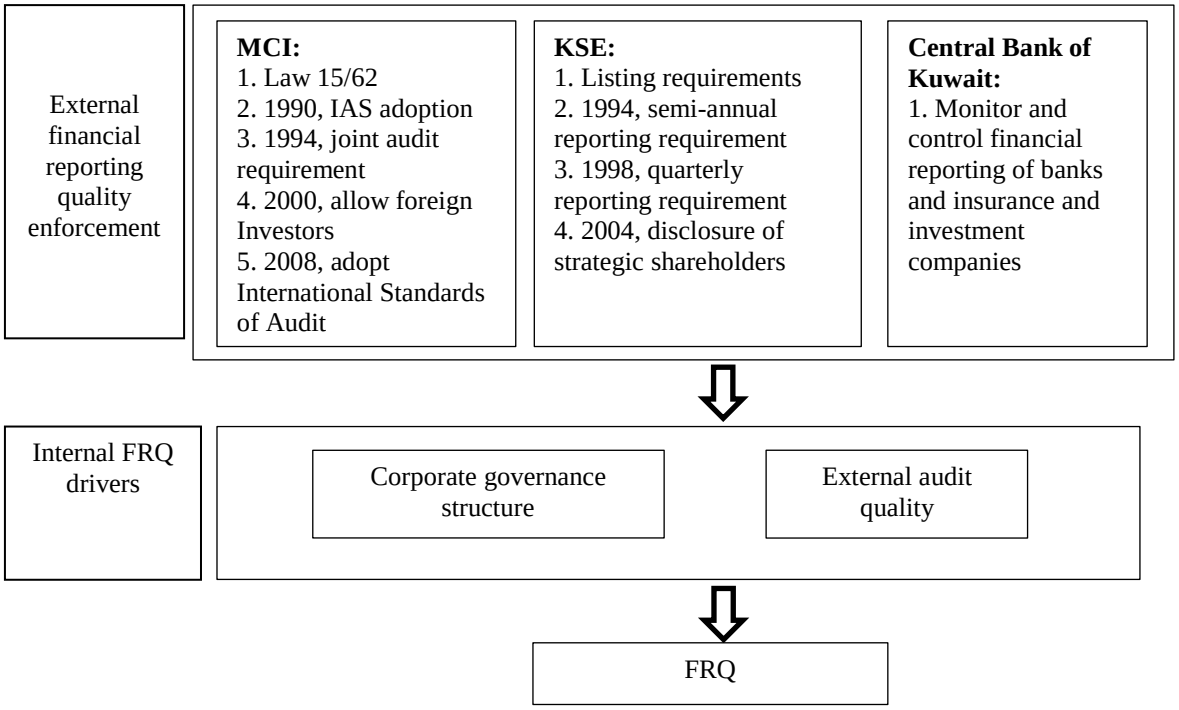

Figure 0-1 Financial Reporting Environment in Kuwait

Audit Profession in Kuwait

The *Law of Commercial Companies No. 15 (1960)* specifies the rights and duties of external auditors. Unlike in the US and UK, in Kuwait, the external audit requirement was mandated from the beginning of the government organising trade in 1960. In the US and UK, professional auditing was completed on a voluntary basis and was later mandated and organised in 1933 and 1900, respectively (Watts & Zimmerman, 1983).

In Kuwait, external auditors must be registered with the MCI, and company law requires that the external auditor be appointed by the annual general meeting of shareholders, as well as the auditor's remunerations. These procedures are intended to ensure the independence of the auditor. The external auditor has a specific obligation to report non-compliance with accounting standards and other regulations in their reports to the respective MCI. The external auditor must not be a board member or founder, or hold a management or administrative position in the audited company. The auditor must be present at the shareholders' general meeting to give their opinion on the outcome of their duties, and particularly on the company's balance sheet. The auditor must read the audit report at the shareholders general meeting. The report must state whether the company maintains proper accounts, whether all information they deem necessary for

the satisfactory performance of their duties was made available, whether the balance sheet and profit and loss statement conform with the real state of a company's affairs, and whether the documents honestly and clearly reflect the financial position of the company.

External auditors are required to examine and report on a company's compliance with Kuwaiti's Commercial Companies Law and the company's articles of association. More specifically, auditors of Kuwaiti companies act for the shareholders (as shareholders' agents); thus, they are responsible for the correctness of the particulars contained in their reports, ascertaining and certifying the financial statements, ascertaining the full compliance with the IFRSs and ensuring full implementation of all local legal requirements by the companies. A unique feature of the shareholders general meeting is that external auditors are required to attend these meetings and present their audit reports (Ameri Decree, 1960, Article 136). Therefore, during the general meeting, any shareholder may query the auditor and request him or her to clarify any particulars relating to those matters.

In 1994, the MCI issued *Law No. 51 (1994),* which requires all listed firms to have no fewer than two external auditors from two separate audit firms. There are two reasons for adopting joint audit procedure in Kuwait. First, the financial crises that affected the Kuwaiti market in 1982 had a severe effect on the market for a number of years (Al-Yaqout, 2006). Therefore, the MCI attempted to improve financial reporting practice by imposing the joint audit requirement. The second reason for adopting the joint auditing requirement is to safeguard auditor independence and increase audit market competition (Haapamaki, Jarvinen, Niemi & Zerni, 2011). The audit market in Kuwait is small and the MCI anticipated that Big N auditors would dominate the audit market; thus, action was taken to provide greater opportunities for local audit firms.

Before February 2008, there was no uniform body of regulated or even generally accepted auditing standards used in Kuwait (Shuaib, 1998). Most auditors voluntarily used the International Standards of Audit, but there was no legal requirement to do so. Some accounting firms based their audits on US and UK standards, while others did not appear to follow any particular standard. In some cases, financial statements were certified without any effective auditing (Abo-Ghazalah, 2011; Shuaib, 1998). As a step towards enhancing the auditing profession by establishing uniform auditing standards in

Kuwait, *Ministerial Resolution No. 101* was passed in 2008, requiring all companies to conduct their audit in accordance with the International Standards of Audit.

Corporate Governance in Kuwait

Kuwait does not have a separate code of corporate governance best practice (Koldertsova, 2010). The *Commercial Companies Law No. 15 (1960)* is considered the most important resource regarding the governance structure of listed companies. This law establishes the general corporate governance requirements, such as the board of director's elections, size, tenure, responsibilities and remunerations. Table A-1 summarises the most important corporate governance requirements and their effect.

Table A-1 Corporate Governance Requirements in Kuwait According to Law No. 15 (1960)

Article no.	Governance principles	Law requirement	Discussion of the requirement
138	Board size and tenure	The board must have a minimum of three members with tenure of three years, renewable.	The law is silent about the experience or profession of directors. This article incentivises board directors to focus on short-term performance—because there is no limit to the renewable time, companies with blockholders will experience less turnover of board members.
139	Director's ownership	A director must own shares constituting no less than 1% of the capital or shares with a nominal value of KD 10,000 (US$30,000).	This requirement aims to align directors' interest with shareholders' interest. In a small market such as Kuwait, directors' incentives are more often related their reputation and their family's objectives.
139	Director's integrity	A director must have a record free of criminal offences.	The reputation and integrity of directors are important to gain investors' confidence and trust. The article is silent about directors' experience and performance.
140	Interlock directorship	A person can be a board director in up to five boards and a chairperson in no more than two boards.	This requirement aims to limit directors' busyness and make them focus on their limit directorship. It also limits family business directors from being involved in directing and controlling more firms.
144	Board meetings	The board of directors should meet at least four times each year.	The law requires a minimum of board meetings to ensure board members are informed about company affairs. The law is silent about the quality of the board meetings. It does not specify the minimum topics that must be discussed in each meeting, such as the company's financial performance during the last period or strategic plans for the future.

148 and 149	Chairperson and board member responsibilities	The chairperson and board members are responsible for any fraud, power misuse and law violations. If board members are found responsible, they can be sued and are required to reimburse shareholders.	This article empowers shareholders against board members. However, since board members are supported by blockholders, such as families and institutional owners, it is difficult for minority shareholders to prove board members' violations and vote against them in the general meeting.
150	Board of directors' remuneration	Board of directors' remuneration may not exceed 10% of the net profit after deducting depreciation, reserves and a dividend of at least 5%.	In this article, remuneration is linked only to profit by the accounting numbers. This procedure incentivises the board of directors to encourage earnings management. For small companies with low profit or loss, the board members also have less incentive to devote time and effort. Board members will try to find different ways to benefit from their membership at the shareholders' expense.
141 and 156	Board of directors' elections	Shareholders have voting power according to their owned shares. Board members are elected by shareholders, according to their voting power.	According to this article, shareholders with higher voting power can elect board members. The law is silent about the director's independence. Based on this, in Kuwait, board members usually represent blockholders, such as families, institutions or government. The practice of proxy voting is not usual in Kuwait; thus, minority shareholders are at risk of blockholders' expropriation.

It is clear that the *Commercial Companies Law* implies only general features of corporate governance and does not specify the quality of corporate governance features, similar to those in separate codes of corporate governance regimes in Australia, the UK and the US. For example, Kuwaiti listed companies do not have to establish board committees, such as the audit, remuneration or nomination committees that are required or recommended in Western countries' governance codes. Kuwaiti firms' directors are generally nominated by the wishes of majority shareholders, and the nomination process depends on blockholders' support. Therefore, board members are bound by blockholders' objectives and targets, which may be at the expense of the objectives and targets of minority shareholders. This is in contrast to most Western countries, where a board member is nominated by the nomination committee based on their independence and expertise. In Kuwait, the law makes no comment or requirement for the characteristics of board members, such as independence, experience and financial expertise. Table A-2 presents a comparison of Kuwaiti corporate governance characteristics with those of the US, the UK and Australia. The low governance

requirements in Kuwait suggest that the governance structures of most listed firms are weaker than the corporate governance structures in Western countries.

La Porta et al. (2000) argue that corporate governance is a set of mechanisms that outside investors use to protect themselves against expropriation by managers and controlling shareholders. Thus, it can be assumed that the governance regime in Kuwait does not provide the required protection to investors and minority shareholders. This situation is supported by La Porta et al.'s (1998) theory that French civil law countries provide less legal protection to outside investors than do common law countries. In codified civil law environments, outside investors are more exposed to expropriation by insiders because of the inefficient enforcement mechanisms to protect investors (Piot, 2001).

Table A-2 Comparison of Corporate Governance Characteristics in Kuwait, the US, the UK and Australia[16]

Governance principles	Kuwait	US	UK	Australia
Governance code	No governance code, but general governance requirements are outlined in the 1960 Law	Yes	Yes	Yes
Governance code approach	Rules approach	Rules approach	Principles approach	Principles approach
Board independence	Not required	Required for the majority of board members	Required for the majority of board members of FTSE 350	Recommended
Board members' expertise	No specific requirements for expertise or experience	Financial literacy is required by audit committee members	Recommended to have a balance of skills and experience	Recommended that the skills and experience of the board members be disclosed
Separation of CEO and chairperson	Not required	Not required	Recommended	Recommended

[16] Table A-2 is based on several sources: for Kuwait, *Commercial Companies Law No. 15* (Ameri Decree, 1960); for Australia and the UK, corporate governance best practice codes; and for the US, the *Sarbanes Oxley Act 2002* and Broshko and Li (2006).

Audit committee	Not required	Required	Recommended, and required for all listed firms	Recommended, and required for all listed firms
Remuneration committee	Not required	Required	Recommended	Required for ASX-AS&P 300
Nomination committee	Not required	Required for New York Stock Exchange (NYSE) listed firms	Recommended	Recommended
Number of external auditors	Two	One	One	One
Auditor attendance at annual general meeting	Yes	No	No	No

APPENDIX B: INSTITUTIONAL INVESTORS' LITERATURE

Appendix B provides a summary of an indicative sample of existing studies on institutional investors (see Table B-1) and discusses the main reasons for the mixed and contradicting results of the relationship between institutional ownership and quality of auditing. The institutional investors' studies shown in Table B-1 can be divided into two distinct groups. While one set of studies differentiates between institutional investors and other non-institutional large blockholders, the second set treats institutional investors as part of the large blockholders. In the first group, most of the studies in the US context adopt the SEC definition of institutional investor [17] and use filing requirements to obtain information about institutional investor type and ownership percentage. The SEC definition of institutional investors is a US-specific definition that incorporates the magnitude and percentage of institutional investor ownership, and is not applied to other markets.

Studies in other parts of the world either do not define institutional investors (Chan et al., 2007; Naser, Nuseibeh & Al-Hussaini, 2003; Zureigat, 2011) or provide definitions related to their contexts (Abdul Wahab et al., 2007; Gul, Kim & Qiu, 2010; Ruiz-Mallorquí & Santana-Martín, 2011). In the first group, some studies treat institutional investors as a homogenous group that has a similar effect on audit quality (Kane & Velury, 2004; Velury et al., 2003) and firm corporate governance (Cheng, Huang, Li & Lobo, 2010). However, several studies differentiate between institutional investors, treating them as non-homogenous investors with variations in incentives and attitudes towards monitoring firms' management, and distinguish between institutional investors based on the type of institutional investor (Aggarwal et al., 2011), investment horizon (Akins et al., 2012), percentage of ownership (Bhorjraj & Sengupta, 2003; Menon & Wiliams, 2010; Velury & Jenkins, 2006) and location of institutional headquarters (Baik, Kang & Kim, 2010). As shown in Table B-1, the results of the US studies on the relationship between institutional investors and quality of monitoring and financial reporting have been mixed. One possible explanation for this is that institutional investors are not homogenous and thus do not affect the quality of monitoring in a uniform way.

[17] The SEC defines institutional investors as entities such as bank trusts, insurance companies, mutual funds and pension funds that invest funds on behalf of others and manage at least US$100 million in equity.

The institutional investor literature in countries other than the US is also characterised by mixed results. This might be attributed to the lack of a global definition of institutional investors. Four studies in the UK market use different definitions and proxies to capture the notion of institutional investor (see Table B-1). Of these studies, Adelopo et al. (2012) do not provide a specific definition of institutional investors, and include them as part of large shareholders, while O'Sullivan (2000) distinguishes between institutional and non-institutional investors. Both studies find that institutional investors play an inactive and passive role in monitoring firms' management. In contrast, Dong and Ozkan (2008) include overseas investors as institutional investors and find that dedicated institutional investors play an active role in monitoring the firms in which they invest.

Several other studies from less developed countries use the term 'institutional investors' without providing specific definitions, with the percentage of ownership working as a proxy of the institutional investors' ownership (Chan et al., 2007; Naser et al., 2003; Zureigat, 2011). Research finds the level of monitoring is positively associated with specific types of institutional investors in Malaysia (Abdul Wahab et al., 2007) and Spain (Ruiz-Mallorquí & Santana-Martín, 2011), while the relationship between institutional ownership and level of monitoring is positive for all institutional investors in Jordan (Zureigat, 2011) and China (Chan et al., 2007). Therefore, it can be concluded that varied results of the influence and role of institutional investors in the literature may be caused by differences among researchers in defining and measuring institutional investors.

Moreover, examining details of the institutional investor literature reveals a number of interesting issues. One of the most important questions asked in existing research is whether institutional investors provide high-quality monitoring and control over a firm's management, or prefer to use high-quality external auditors to ensure the quality of financial reporting. In one stream of empirical research, the findings indicate that, as the percentage of institutional ownership increases, the level of audit fees decreases (Adelopo et al., 2012; Mitra et al., 2007), which indicates a negative association between institutional investors and audit quality. These findings imply that institutional investors play an active role in monitoring management, leading to improved control and reporting practices and reducing the need for higher quality external monitoring. However, a second stream of research finds that institutional

investor ownership is associated with a higher quality of external audit, measured by hiring a specialised audit firm (Velury et al., 2003) or by the size of the audit firm (Kane & Velury, 2004; Zureigat, 2011). They argue that, due to the high percentage of ownership held, institutional investors can influence management's choice of audit quality, and institutional investors subsequently use higher quality external audits to improve the monitoring of management in order to improve the quality of financial reporting.

The homogeneity of institutional investors is another important question addressed by several papers. Black (1992) argues that the term 'institutional investors' hides critical differences among institutional investors. In contrast, Davis (2002a) finds that all types of institutional investors (foreign investors, life and pensions, mutual funds and banks) are associated with increased firm performance and value. The results suggest there is no difference among institutional investors, and they can be treated as homogenous. However, Ferreira and Matos (2008) examine this issue in 27 countries and their findings contradict Davis (2002a), indicating that there is a difference among institutional investors in terms of their effect on the performance and value of firms. They find that independent institutional investors with less of a business relationship with the firms in which they invest, such as mutual funds and foreign investors, are associated with better performance and a higher level of monitoring of management behaviour. In contrast, they find that grey institutional investors that have a close relationship with and are more loyal to corporate management, such as bank trusts and insurance companies, are associated less with firms' performance and a lower level of monitoring. Ferreira and Matos's (2008) results demonstrate that institutional investors are not homogenous and that there is a variation among them regarding their incentives to monitor a firm's management. This suggests that researchers need to consider the issue of the heterogeneity of institutional investors in order to determine their effect on the quality of monitoring, firms' value and firms' performance.

Ferreira and Matos's (2008) results support the notion of heterogeneity among institutional investors, even with fundamental differences among the countries included in their study, such as origin of laws (the UK, Germany and France) and level of development (India, Hong Kong, South Africa, Japan and Canada). In contrast, Thomson, Pedersen and Kvist (2006) find that the relationship between institutional investors and firm performance varies between countries. Their study shows that

institutional investors have no effect on firm value in Anglo-American market-based economies, but have a significant negative effect on firm value and accounting profitability in Continental Europe. Moreover, in a Spanish context, institutional ownership (such as ownership by banks) is negatively associated with a firm's value, while investment fund ownership is positively associated with firm value (Ruiz-Mallorquí & Santana-Martín, 2011). Spanish banks tend to have a close relationship with management, while investment funds provide enhanced control and monitoring. However, when considering the results from that study, it should be remembered that the Continental Europe context is different to the US and UK contexts. In the former, institutional investors tend to be represented in firms' boards or even as part of the management, while, in the latter, institutional investors are usually not involved in the management and there is strong legal protection of minority investors.

There are several explanations for the conflicting results seen in the literature. First, there is variation in the definition of 'institutional investor' among authors. In the US, the most common definition is the SEC definition. The SEC (2010) defines an institutional investor as an 'entity that invests in or trades securities for its own account, or a person or entity that exercises investment discretion over someone else's account' (p. 4). The minimum ownership of such entities is US$100 million in equity. Institutional investors can be investment advisers, banks, insurance companies, broker-dealers, pension funds and corporations. Other than the official SEC definition used by studies in the US context, there is no single definition used in the literature. Farrar (2008) defines 'institutional investor' as a 'broad term that encompasses pension and superannuation funds, investment companies, mutual funds and unit trusts, insurance companies, banks and charitable foundations. It also includes funds managers who are professionals managing investments on behave of other institutional investors' (p. 362).

Researchers in different parts of the word use different definitions of institutional investors (Chan et al., 2007; Davis, 2002a; Ferreira & Matos, 2008; Gul et al., 2010), with some using percentage of ownership as a proxy to define this (Adelopo et al., 2012; Ruiz-Mallorquí & Santana-Martín, 2011; Thomson et al., 2006). However, using percentage of ownership to define institutional investors can be misleading because this definition might include both institutional and non-institutional investors, and mixing different investor groups with different investment objectives and incentives to monitor firm management will lead to different results. Therefore, the absence of a global

definition of institutional investors means that researchers use different definitions, leading to different categorisations of institutional investors and subsequently producing variations in results.

A second reason for the conflicting results is the variation between institutional investors concerning the monitoring of management behaviour. The SEC's and Farrar's (2008) definition includes different entities as institutional investors with different investment objectives. Consequently, the term 'institutional investor' can describe entities that are not homogenous in their behaviour concerning monitoring and disciplining the management of investee firms (Farrar, 2008). Studies that consider the variation among institutional investors produce different results to studies that consider institutional investors a homogenous group. Institutional investors in the US are obliged to file SEC Form 13F; thus, researchers in the US market use Form 13F as a source of the data for institutional investors. The majority of researchers in this market do not distinguish the differences between different types of institutional investors, such as Kane and Velury (2004), Menon and Wiliams (2010), Mitra et al. (2007) and Veury et al. (2003). This contrasts research in other parts of the world, such as that by Abdul Wahab et al. (2007) in Malaysia, Aggarwal et al. (2011) in 23 developed countries and Ruiz-Mallorquí and Santana-Martín (2011) in Spain, where researchers examine the effect of institutional investor on the level of management monitoring and find different results based on the type of institutional investor.

Ruiz-Mallorquí and Santana-Martín (2011) and Ferreira and Matos (2008) attribute the difference in types of institutional investors' effect on firms' value to the relationship between institutional investors and firms' management, which reflects the level of management monitoring. Even in the US market, when researchers distinguish between the four types of institutional investors (pension funds, mutual funds, banks and insurance companies), they find that each type of institutional investor has a different effect on the level of capital and research and development expenditures (Sherman, Beldona & Joshi, 1998). They attribute the differences among types of institutional investors to the different regulations governing their activities and the different objectives each group needs to achieve. This evidence supports Black's (1992) argument that the concept of 'institutional investor' obscures critical differences between the various institutions. The failure of researchers to recognise the differences among the institutional investors' objectives and incentives has contributed to the mixed

results in research examining the influence of institutional investors on firm value and audit quality.

Finally, as shown in Table B-1, some researchers distinguish institutional investors from other large blockholders, while others consider them part of the large blockholders. Therefore, the contradictory results may partly be attributed to this different treatment of institutional investors. An important feature of institutional investors is that they mostly invest on behalf of others, while other blockholders mostly invest using their own money (Grinstein & Michaely, 2005). Institutional investors are operated by professional managers who may not make value-maximising decisions, thereby leading to agency problems, while if blockholders who invest their own money have sufficient ownership stake to control the firm, they face less agency problems (Gorton & Kahl, 1999). Therefore, the incentives to monitor and control management for institutional investors' managers might be different from other non-institutional large blockholders.

Other distinctive differences between institutional investors and other non-institutional large blockholders is the level of regulations that govern their investment and actions. They are subject to agency conflicts; thus, compared to non-institutional large blockholders who are less subject to agency conflicts, institutional investors are always governed by more regulations and laws that affect their activity as investors and the size and type of investment in which they can be involved (Davis, 2002b; Gillan & Starks, 2003). In a recent movement to stimulate the institutional investor's role, the UK's Financial Reporting Council issued a new stewardship code for institutional investors. Using a 'comply or explain why not' principle, institutional investors in UK are required, among other things, to have a policy to manage conflicts of interest and monitor the firms in which they invest. In contrast, in the US, there is a demand to reduce regulations imposed on non-institutional large shareholders. Bebchuk and Jackson (2012) argue that the SEC should not take further action to impose additional regulations on large blockholders because of their monitoring role. They argue that imposing more regulations on large blockholders will discourage investors from holding large blocks of shares, and subsequently affect the level of investors monitoring and management controlling.

Table B-1 Summary of the Institutional Investors' Literature

Author	Sample (period)	Context	Definition of institutional investor	Independent variable	Dependent variable	Main finding
Velury et al. (2003)	5,647 unregulated firms (1992–1996)	US	SEC definition*	Percentage of institutional investor ownership	Audit quality indicated by proportion of industry sales audited by an auditor	Positive association between level of institutional investor ownership and audit quality.
Kane and Velury (2004)	7,582 unregulated firms (1992–1996)	US	SEC definition	Percentage of institutional investor ownership	Audit quality indicated by auditor size	Positive association between institutional ownership and auditor size.
Cheng et al. (2010)	1,811 lawsuits (1995–2006)	US	Definition of Securities Class Action Services	Institutional investors as lead plaintiff according to Securities Class Action Services	Corporate governance improvements: board independence and audit committee independence	Defendant firms with an institutional lead plaintiff experience greater improvement in corporate governance.
Naser et al. (2003)	306 survey responses (2000)	Kuwait	N/A	Response of different user groups, including institutional investors	Usefulness, ability to understand, credibility and timelines of annual reports	Unlike individual investors, institutional investors use annual reports as the main source of financial information. There is no significant difference among users regarding reported information characteristics.
Zureigat (2011)	248 firms listed on the Amman Stock Exchange (2009)	Jordan	N/A	Percentage of institutional investor, foreign and blockholder ownership	Audit firm size: Big N v. non–Big N	Audit quality is negatively associated with ownership concentration and positively associated with foreign and institutional investors.

Author	Sample (period)	Context	Definition of institutional investor	Independent variable	Dependent variable	Main finding
Davis (2002)	1970–2000 listed firms	G7 + Australia	Foreign investors, life and pensions, mutual funds and banks	Percentage of equity held by each category of institutional investors	Firm's value	Positive association with dividend distribution, less fixed investment and higher productivity growth.
Chan et al. (2007)	130 voluntary auditor switches (1997–2005)	China	N/A	Percentage of institutional investors and government ownership	Audit quality: change from non–Big 4 to Big N audit firms	Positive association between an increase in institutional investors and change to a higher audit quality.
Ferreira and Matos (2008)	11,224 non-US firms (2000–2005)	27 countries	Professional money managers with discretionary control over assets (such as mutual funds, pension funds, bank trusts and insurance companies)	Percentage of ownership and type of institutional investors: foreign v. domestic and independent v. grey institutions	Firm performance	The presence of foreign and independent institutions are associated more with shareholder value and better operating performance.
Ruiz-Mallorquí and Santana-Martín (2011)	111 listed firms on the Spanish Stock Exchange (1996–2009)	Spain	Banks and investment funds own 10% or more of the firm's voting rights	Percentage of institutional investor ownership	Firm value as measured by Tobin's Q	Bank ownership as institutional investors is negatively associated with a firm's value. Investment fund ownership as institutional investors is positively associated with a firm's value.
Abdul Wahab et al. (2007)	440 listed firms in Bursa Malaysia (1999–2002)	Malaysia	No definition—use five largest institutional investors	Percentage of top five institutional investor ownership	Firm's corporate governance measured by composite index	Only the biggest pension fund (EPF) affects the relationship between institutional ownership and corporate governance.

Author	Sample (period)	Context	Definition of institutional investor	Independent variable	Dependent variable	Main finding
Gul et al. (2010)	6,120 firms (1996–2003)	China and Hong Kong	Foreign institutional investor	Percentage of equity held by foreign investors and government	Stock price synchronicity	Foreign investor ownership enhances capitalisation of firm-specific information into stock price.
Aggarwal et al. (2011)	2,218 non-US firms and 5,202 US firms (2004–2005)	23 developed countries	Professional money managers (such as mutual funds, pension funds, bank trusts and insurance companies)	Percentage of ownership and type of institutional investors: foreign v. domestic and independent v. grey institutions	Corporate governance structure (board, audit, anti-takeover provisions, ownership and compensation)	Positive association between institutional investors and level of corporate governance. Foreign and independent institutional investors drive governance improvements.
Dong and Ozkan (2008)	546 listed firms (2000–2004)	UK	Pension funds, insurance companies and overseas investors	Institutional ownership above 3% of total equity classified to transient and dedicated investors	Firm directors' pay	Institutional investors generally have no effect on the directors' pay (passive and ineffective monitoring). Dedicated institutional investors restrain director pay and encourage pay–performance relationships.
Mitra et al. (2007)	358 unregulated firms audited by Big N listed on the NYSE (2000)	US	SEC definition	Ownership structure: diffused institutional ownership with less than 5% of equity and block institutional with more than 5% of equity	Audit fees	Significant positive relationship between diffused institutional ownership and audit fees. Significant negative relationship between block institutional ownership and audit fees.
Menon and Wiliams (2010)	1,194 firms received going concern audit reports for the first time (1995–2006)	US	SEC definition	Percentage of institutional investor ownership	Investors' reaction to going concern audit report	High institutional ownership is associated with negative reaction to going concern audit reports. Firms with a low level of institutional ownership have no reaction to going concern

Author	Sample (period)	Context	Definition of institutional investor	Independent variable	Dependent variable	Main finding
						audit report.
Velury and Jenkins (2006)	4,238 firms (1992–1999)	US	SEC definition	Percentage of top five institutional investor ownership	Earnings quality	Positive association between institutional ownership and earnings quality. Negative association between concentrated ownership and earnings quality.
Ajinkya et al. (2005)	2,934 annual earnings forecasts (1997–2002)	US	SEC definition	Percentage of institutional investor ownership	Earnings forecasts occurrence and quality	Institutional ownership is positively associated with the likelihood of forecast occurrence and frequency of forecast issuance. Block institutional ownership is negatively associated with forecast properties.
Burns et al. (2010)	314 firms (1994–2003)	US	SEC definition	Percentage and type of institutional investor ownership	Firm misreporting indicated by restatements	Positive association between institutional ownership and misreporting (less monitoring) driven by transient and quasi indexing institutional.
Bhorjraj and Sengupta (2003)	1,005 firms(1991–1996)	US	SEC definition	Percentage of institutional ownership and board composition	Bond ratings and yields	Institutional investors are positively (negatively) related to bond rating and yield. Concentrated institutional investors have an adverse effect on bond yields and ratings.
Akins et al. (2012)	83,988 firm-years listed on the NYSE, AMEX and NASDAQ (1983–2000)	US	SEC definition	Competition among investors indicated by number of institutional investors	Pricing of information asymmetry indicated by bid–ask spread	The pricing of information asymmetry (bid–ask spread) is lower when there is more competition (more institutional investors).

Author	Sample (period)	Context	Definition of institutional investor	Independent variable	Dependent variable	Main finding
Baik et al. (2010)	171,989 firm quarters (1995–2007)	US	SEC definition	Local v. non-local institutional investors	Future stock returns	Local institutional investors have a significant information advantage over non-local institutional investors. Thus, local institutional investors can execute more profitable trades.
Cronqvist and Fahlenbrach (2009)	1,919 large public firms (1996–2001)	US	Part of large blockholders, which includes individuals and groups that acquire a beneficial stake of 5% or more	Type of large blockholders	Corporate policies: investment, leverage and CEO compensation decisions	Blockholders have a significant and economic effect on investment, leverage and executive compensation policies. Different large blockholders have distinctly different investment and governance styles.
Heflin and Shaw (2000)	260 firms listed on the NYSE (1988–1989)	US	Part of large blockholders who own at least 5% of outstanding shares	Percentage of blockholder ownership	Market liquidity measured by the relative bid–ask spread	Higher block ownership is associated with reduced liquidity of the firm's stock.
Thomson et al. (2006)	863 firms—489 from the US, 109 from the UK and 276 from Continental Europe (1998)	UK, US and Europe	Part of large blockholders	Percentage of blockholder ownership	Firm's value	In the US and UK: large block ownership has no effect on firm value. In Europe: large block ownership has a significant negative effect on firm value and accounting profitability.
O'Sullivan (2000)	402 firms from Times 1000 (1992)	UK	Part of large blockholders	Institutional and non-institutional investors who own 3% or more of equity	Audit quality indicated by audit fees	No evidence that blockholders (institutional and non-institutional investors) influence audit fees or audit quality.

Author	Sample (period)	Context	Definition of institutional investor	Independent variable	Dependent variable	Main finding
Adelopo et al. (2012)	209 non-financial listed firms from FTSE 350 (2005–2006)	UK	Part of large blockholders who own 3% of total voting shares	Number of multiple large shareholders	Audit fees	The higher number of multiple large shareholders is associated with a lower level of audit fees.

Note:
* The SEC defines institutional investors as entities such as bank trusts, insurance companies, mutual funds and pension funds that invest funds on behalf of others and manage at least US$100 million in equity
** N/A: not available because author/s do not provide specific definition for the term ‘institutional investor’.

APPENDIX C: CONTRACTUAL AGREEMENTS IN ISLAM

The principle of property rights in Islam provides a framework for protecting the interests and rights of the individual, community, state and corporation through identifying, recognising and respecting others' rights. Islam emphasises that the sole owner of property is Allah and humans are trustees who should use and manage property according to sharia rules. In the Al-Quran, Allah states: 'Believe in Allah and his messenger and spend of that whereof he made you trustee' (Al-Quran 57:7). This implies that property ownership and enjoyment of rights to property should occur according to sharia rules and in balance with the rights of other individuals, society and the state (Iqbal & Mirakhor, 2004).

One important aspect of protecting others' rights relates to contracts being free of information asymmetry, which has implications for both explicit and implicit contracts. The Islamic contractual framework encourages the individual, society, corporation and state to fulfil their contractual obligations. Allah says, 'O you, who believe, fulfil contracts' (Al-Quran 5:1). This emphasis on fulfilling contract obligations should encourage people to be aware of the obligations rising from explicit or implicit contractual agreements (Askary, Iqbal, Krichene & Mirakhor, 2010). Explicit contracts should clearly specify the duties of contract parties and be free of information asymmetry. Contract parties should be fully aware of their rights and obligations, including full disclosure. The state plays an important role in enforcing full compliance with the terms and conditions of explicit contracts. The rationale behind having contracts that are free of information asymmetry is the belief that all humans are accountable to God, and God provides all of the resources that people need to conduct all personal and business affairs in a fair and equitable manner (Bhatti, 2010).

The concept of accountability includes accountability to other people, the community and society, who have the right to know about the operations and transactions of organisations. Thus, organisations that follow Islamic rules have a religious incentive to provide more transparent accounting and management information. Islam also promotes truth as an important component of Islamic ethics; thus, 'disclosure of all necessary information for the accomplishment of faithful obligations and the making of economic and business decisions consistent with that ethos is the most important tenet of an Islamic accounting system' (Lewis, 2006, p. 9).

Full disclosure of reliable and timely financial information is vital for stakeholders to make sound financial decisions (Healy & Palepu, 2001).

Implicit contracts are the rights and duties that arise from becoming a member of a society. 'Principles of sharing and rights of collectively to property rights are kind of implicit contracts to preserve and protect rights of others and thus establish a wide spectrum of implicit obligations' (Iqbal & Mirakhor, 2004, p. 56). The Islamic beliefs in the afterlife and the questioning of Allah provide strong incentives for Islam followers to comply with social expectations and fulfil their implicit contracts. The behaviour of complying with explicit and implicit contracts is expected from both individuals and businesses. Therefore, the governance structures of firms adopting Islamic principles should reflect firms' obligatory fulfilling of contracts by recognising and protecting the property rights of stockholders, including shareholders, society and the state. The religious and ethical incentive for firms' management to provide financial information free of information asymmetry with full disclosure and a high level of transparency distinguish Islamic governance from conventional governance that is based on secular humanist values (Lewis, 2005).

Islamic-based corporate governance presents wider accountability for decision makers in corporations than does Anglo-American corporate governance that is based on secular humanist values (Lewis, 2006). In firms that have adopted Islamic principles, decision makers are not only accountable to shareholders, financiers and management, but also to suppliers, customers, competitors and employees. Islamic governance aims to achieve the Islamic sharia objectives of protecting people's faith, life, intellect, posterity and wealth (Bhatti, 2010; Hasan, 2009). The wider concept of accountability stems from the Prophet Muhammad (the Muslims' Prophet), who said: 'Each one of you is a guardian and each guardian is accountable to everything under his care' (Prophet Mohammed, PBUH)..

The notion of accountability in Islam contradicts Western ideas that are based on self-interest without consideration of the wider needs of society (Lewis, 2005). Therefore, the Islamic business literature argues that Islamic governance is based on the stewardship theory, rather than the agency theory (Azid, Asutay & Burki, 2007; Bhatti, 2010). Islamic firms' decision makers are viewed as stewards who are motivated to act in the spirit of partnership for the good of the firm (Lewis, 2005). Agency theory assumes that the principal and agent are both self-utility maximisers and, to align the

interests of the principal and agent, a structure of governance mechanisms (monitoring and control) should be implemented. Stewardship theory assumes that a manager behaves as a steward to stockholders and acts in the best interests of his or her organisation. This collective behaviour by the steward will benefit the shareholders and other stockholders, leading to diminished monitoring and controlling costs (Davis, Schoorman & Donaldson, 1997). In stewardship theory, managers are motivated by intrinsic rewards, while, in agency theory, they are motivated by extrinsic rewards. Followers of Islam seek to achieve conventional intrinsic rewards, such as opportunities for growth, achievement and self-actualisation. As stewards, they are also looking to God and fulfilling their religious requirements in order to gain His mercy in the current life and afterlife. Thus, the Islamic collectivist culture promotes God's followers to develop a steward relationship in their business practice, which is consistent with Davis el al.'s (1997) proposal that a principal steward relationship is more likely to develop in collectivist cultures.

APPENDIX D: INCENTIVES FOR EARNINGS MANAGEMENT BEHAVIOUR

Earnings management behaviour is driven by different motivations, including political and governmental regulations, capital market motivations and management compensation contract motivations (Healy & Wahlen, 1999).The costs related to political and governmental actions—such as taxes, tariffs and antitrust regulations—are found to incentivise firms' managers to engage in earnings management behaviour (Han & Wang, 1998; Key, 1997). Moreover, regulated firms, such as banks and insurance firms, manage income statements and balance sheet variables to meet regulators' requirements (Healy & Wahlen, 1999). Warfield, Wild and Wild (1995) suggest that regulated firms are subject to different earnings management incentives than are non-regulated firms.

Meeting market expectations drives earnings management behaviour. Healy and Wahlen (1999) argue that firms' managers use earnings management to meet investors' and financial analysts' expectations. Investors use analysts' forecasts to form their investment decisions, which encourages firms' managers to manage their reported earnings to meet the analysts' forecasts and boost investors' interest (Degeorge, Patel & Zeckhauser, 1999). Since a decline in stock prices is associated with reported earnings that do not meet analysts' expectations (Kinney, Burgstahler & Martin, 2002), firm managers tend to use upwards earnings management to meet analysts' expectations and prevent negative earnings surprises (Burgstahler & Eames, 2006). Dhaliwal, Gleason and Mills (2004) find evidence that firms tend to manage earnings by decreasing their annual effective tax rates if the earnings do not meet analysts' forecasts. In a summary of the literature, Dechow et al. (2010) conclude that firms use different accrual choices to influence equity market valuation and meet or beat earnings targets.

Drivers of earnings management also include management compensation contracts and turnover. If a firm's manager's compensation is sensitive to the firm's share price, it might encourage the manager to engage in a higher level of earnings management (Bergstressera & Philippon, 2006; Cheng & Warfield, 2005). Although decisions regarding top management pay are passed through board committees or boards of directors, the initial recommendation for pay level emanates from the human resources department. Firms' managers review and approve these recommendations before obtaining final approval from the board of directors (Murphy, 1999). Therefore, firms' top management has a large involvement in designing their own compensation

package. Usually, compensation packages are payment of cash, stock and options that are related to performance measures, such as stock returns and earnings. Accounting numbers that are tied to earnings, such as accounting returns, sales revenue and net interest income, are used as performance measures (Jensen, Murphy & Wruck, 2004; Murphy, 1999). Firms' managers use accounting measures to signal their efforts in improving firms' earnings and stock price, anticipating that those successful efforts will be incorporated into the managements' compensation contract (Bolton, Scheinkman & Xiong, 2006; Core, Guay & Verrecchia, 2003; Feltham & Xie, 1994). This implies that managers' compensation packages can play a vital role in encouraging management to manage earnings to report better performance.

The second incentive for managers in engage in managing earnings is top management (CEO) turnover. CEO turnover raises two earnings management issues: the behaviour of the predecessor and the successor towards earnings. A CEO's departure can be peaceful, orderly and routine, or a non-routine departure (Ronen & Yaari, 2010). Non-routine departures are usually associated with a firm's poor performance and/or financial reporting restatements (Berry, Bizjak, Lemmon & Naveen, 2006; Collins, Reitenga & Sanches-Cuevas, 2005; Fee & Hadlock, 2004). The process of non-routine departure usually takes two to three years. The process begins with bad news and poor performance and ends with a request from the director/s to the CEO to resign (McNeila, Niehaus & Powers, 2004; Pourciau, 1993). The last two to three years give the underperforming CEO the chance to manage earnings in order to cover up poor performance and reduce the amount of bad news in an attempt to delay the decision of forced departure (Ronen & Yaari, 2010).

In routine departures, CEOs have the incentive to manage earnings in the last year in order to increase their chance of being hired as a member of a board of directors or to secure a position as an outside director on other companies' boards (Brickley, Link & Coles, 1999; Reitenga & Tearney, 2003). The incoming CEOs also have several incentives to manage earnings. To manage expectations and set achievable performance goals, the new CEO tends to engage in downwards (profit decreasing) earnings management in the first year of appointment and upwards (profit increasing) earnings management in the successive years (Pourciau, 1993). This allows new CEOs to attribute poor performance to the previous CEO, demonstrate their advantage as a better

CEO and establish a low base for executive compensation tied to reported earnings (Godfrey, Mather & Ramsay, 2003).

APPENDIX E: ISLAMIC-COMPLIANT FIRMS' SCREENING PRACTICES

Islamic sharia rules stem from three main sources: the Islamic holy book (*Quran*), the sayings of the Prophet Muhammad (*Hadith*) and the opinions of Islamic scholars (*Ijtihad*) (Gait & Worthington, 2007). Unlike Christianity, in Islam, there is no unique higher institution responsible for all religious opinions to be followed by all Muslims (Abdel-Khaleq & Richardson, 2007). Therefore, Islamic business organisations and fund providers hire experienced sharia scholars to interpret the different sources of sharia and develop a screening process to distinguish between Islamic-compliant assets and non-admissible assets (Derigs & Marzban, 2008). Sharia scholars propose different procedures and guidelines to determine the sharia compliance of assets. Derigs and Marzban (2008) argue that the 'complexity of modern capital and markets, existence of complex investment instruments and the multidisciplinary and global involvement of companies' (p. 286) are the main reasons for different screening processes.

Identifying Islamic-compliant investments and businesses is achieved by applying a set of qualitative and quantitative screens (Derigs & Marzban, 2008). Qualitative screens are used to exclude firms operating in specific business areas that cause harm or offence to individuals, society and the environment, such as alcohol, pork and pornography (Marzaban & Asutay, 2012). There is disagreement among sharia scholars regarding the level of firms' involvement in activities that are not admissible (Abdul Rahman, Yaha & Nasir, 2010). Some scholars argue that firms with any involvement in a non-admissible activity are non-compliant, while others consider firms with an admissible core business and negligible portion of non-admissible activities as Islamic compliant. There is disagreement among sharia scholars regarding whether business activities such as weapons and biotechnology are Islamic compliant (Derigs & Marzban, 2008). These disagreements and differences among sharia scholars produce different sets of procedures to screen Islamic-compliant activities.

In addition to qualitative screening, quantitative screening is used to identify Islamic-compliant investments and businesses. Quantitative screening is used because Islamic sharia law forbids business involvement in any type of loans interest (*Riba*) and the trading of money for money. Therefore, quantitative screening is used to determine how deeply firms are engaged in interest. Quantitative screening is financial screening in which specific ratios are used and compared to maximum allowable thresholds levels.

These thresholds are not specifically defined in the holy book (*Quran*) and are based on the interpretation of scholars; therefore, there is some variability in the thresholds specified by scholars. Derigs and Marzban (2008, p. 288) describe different qualitative screens as follows.

1. Liquidity screens

Liquid assets are current assets elements, and may include cash and cash equivalents, short-term investments and accounts receivables. For conventional analysts, a high liquidity ratio is generally a positive signal showing that the company is able to cover its short-term financial obligations more easily than a company with a lower ratio. However, because from a sharia perspective, returns should be gained from illiquid assets only, assets of a sharia-compliant company should be largely in illiquid form. An example of a sharia screen measuring the maximum permissible liquidity level of a company is:

> The sum of accounts receivables, cash and short-term investments may not represent more than 50% of the total assets of a company.

2. Interest screens

Earnings from interest are generally not permissible. However, since all companies cooperate with banks and this relationship might generate interest, Islamic scholars define thresholds indicating the extent to which interest is permissible. Interest permissibility is measured in two different ways—either the amount of interest income generated or the amount of liquid assets (cash and short-term investments) that could generate interest income is limited. A sample interest screen is:

> Interest income may not represent more than 5% of the total revenue of a company.

3. Debt screens

In addition to receiving interest being banned, interest payments are also banned. Thus, the level of interest payments for debt is also measured and limited by a threshold. In this instance, Islamic and conventional analysis coincide and favour lower debt ratios because, generally, a lower leverage level is interpreted as a positive investment signal. An example of a debt screen is:

The portion of total debt from the total assets of a company may not exceed 30%.

4. Non-permissible income screens

Other less-frequently used financial screens measure the level of income generated from non-sharia-compliant activities. These screens are important in the case that the qualitative screens are used to exclude only those companies whose primary business is not sharia compliant. For example, such screens can be applied to a hotel whose primary business is sharia compliant to determine how much income has been generated by alcohol sales and an associated casino. If this income exceeds a given threshold, the hotel is marked as being non–sharia compliant. An example for a screen is:

Non-permissible income from any sharia non-compliant activity must be less than 5% of the total revenue generated by a company.

APPENDIX F: MEASUREMENTS OF EARNINGS MANAGEMENT

The accounting literature provides different measures to capture firms' earnings management behaviour. Jones's (1991) model aims to calculate the discretionary portion of total accruals, which is then used as a measure of earnings management. There is extensive research in the literature that uses the Jones (1991) model and modified versions of this model as a proxy of earnings management, which is viewed as an inverse measure of earnings quality (e.g. Balsam, Krishnan & Yang, 2003; Becker et al., 1998; Chen et al., 2005; Chung et al., 2002; Francis et al., 1999; Francis et al., 2013b; Gul, Chen & Tsui, 2003; Krishnain, 2003; Subramanyam, 1996; Wang & Zhou, 2012). Moreover Dechow, Sloan and Sweeney (1995) compare five commonly used models of discretionary accruals, and find that their modified Jones model has the most explanatory power of earnings management. Jones (1991) uses the following expectations model to partition total accruals into discretionary and nondiscretionary components:

$$TA_{i,t} \Big/ A_{it-1} = \beta_1 \left[1 \Big/ A_{it-1}\right] + \beta_2 \left[\Delta REV_{it} \Big/ A_{it-1}\right] + \beta_3 \left[PPE_{it} \Big/ A_{it-1}\right] + \varepsilon_{it}$$

where $TA_{i,t}$ is total accruals in year t for firm i; A_{it-1} is total assets in year $t-1$ for firm i; ΔREV_{it} is revenues in year t less revenues in year $t-1$ for firm i; PPE_{it} is gross property, plant and equipment in year t for firm i; and ε_{it} is the error term in year t for firm i.

Despite wide recognition of the efficacy of the Jones (1991) model, different studies have critiqued the model. Bernard and Skinner (1996) argue that the Jones model is incomplete and allows considerable chance for misclassification of expected accruals as unexpected accruals. They conclude that misclassification crucially affects the conclusions reached by researchers regarding the role of discretionary accruals. Guay et al. (1996) find that their evidence is consistent with five models estimating discretionary accruals, including the Jones (1991) model and modified Jones model, with considerable imprecision and/or misspecification. Hansen (1999) concludes that research studies relying entirely on the validity of discretionary accruals models are likely to understate or overstate the proposed earnings management behaviour. Thus, to overcome criticisms of the Jones-type accruals models, Dechow and Dichev (2002) develop an alternative model to generate proxies for earnings quality.

Dechow and Dichev (2002) argue that estimation errors in accruals and the subsequent corrections of these errors decreases the quality of accruals and earnings. However, the Dechow and Dichev (2002) model is unlike the Jones-type models because it does not attempt to disentangle intentional estimation errors from unintentional errors. This is because both types of error indicate low-quality accruals and earnings. Therefore, while the Jones (1991) model assumes that accruals and earnings quality is only affected by management's intent to manipulate, the Dechow and Dichev (2002) model incorporates both intentional and unintentional estimation errors in accruals. Intentional errors arise from incentives to manage earnings and are similar to the opportunistic earnings management indicated by the Jones (1991) model. Unintentional errors arise from management deficiencies and environmental changes (Francis et al., 2005). The original Dechow and Dichev (2002) model is as follows:

$$\Delta WC_t = \beta_1 + \beta_2 CFO_{t-1} + \beta_3 CFO_t + \beta_3 CFO_{t+1} + \varepsilon_i$$

where ΔWC_t is the change in working capital in year t computed by: (Δ Current Assets – Δ Current Liabilities – Δ Cash); CFO_t is cash flows from operations in year t; CFO_{t-1} is cash flows from operations in year $t - 1$; CFO_{t+1} is cash flows from operations in year $t + 1$; and ε_i is the firm-specific accrual estimation error for the ith company for year t.

APPENDIX G: ALL FAMILY OWNERSHIP

Table G-1 Ordinal and Logistic Regression of the Relationship between Audit Quality and All Family Ownership

Ordinal regression model:

$$AQ_i = \beta_0 + \beta_1 AllFamily\_own_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

Logistic regression model:

$$AQa, b, c, d, e, _i = \beta_0 + \beta_1 AllFamily\_own_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

	Column (1)	Column (2)	Column (3)	Column (4)	Column (5)	Column (6)
	AQ (Estimate)	*AQa (Odds ratio)*	*AQb (Odds ratio)*	*AQc (Odds ratio)*	*AQd (Odds ratio)*	*AQe (Odds ratio)*
Intercept		0.015	0.026	0.081	0.026	0.932
		(0.103)	(0.266)	(0.353)	(0.184)	(0.983)
AllFamily_own	**-0.010***	0.994	0.994	0.995	0.997	0.999
	(0.096)	(0.363)	(0.492)	(0.494)	(0.683)	(0.880)
Size	**0.687**	1.703	1.935	1.459	1.631	1.050
	(0.018)	(0.117)	(0.133)	(0.299)	(0.182)	(0.909)
AuditComm	**0.887*** **	**1.764***	0.611	**4.314*** **	**4.318*** **	**4.382*** **
	(0.002)	**(0.082)**	(0.245)	**(0.000)**	**(0.000)**	**(0.001)**
Complex	-0.010	0.978	0.964	0.999	0.996	0.986
	(0.549)	(0.290)	(0.193)	(0.972)	(0.869)	(0.538)
ROA	0.167	1.427	1.413	1.207	1.215	1.252
	(0.483)	(0.474)	(0.503)	(0.750)	(0.728)	(0.710)
CEO_involve	0.000	1.188	1.468	0.930	1.066	0.941
	(1.000)	(0.587)	(0.342)	(0.825)	(0.850)	(0.877)
Leverage	0.002	1.108	0.907	1.135	1.098	1.014
	(0.997)	(0.897)	(0.920)	(0.878)	(0.911)	(0.988)
Financial	**0.955** **	**0.517*** **	**0.343** **	1.022	1.017	0.787
	(0.011)	**(0.098)**	**(0.035)**	(0.961)	(0.971)	(0.635)
Service	**1.332*** **	**0.238*** **	**0.324***	**0.272** **	**0.319** **	**0.195*** **
	(0.001)	**(0.003)**	**(0.086)**	**(0.005)**	**(0.014)**	**(0.004)**
Industrial	0.200	**0.382** **	0.615	**0.329** **	**0.353** **	**0.288** **
	(0.633)	**(0.038)**	(0.449)	**(0.021)**	**(0.036)**	**(0.027)**
Pseudo- R^2	0.196	0.138	0.112	0.252	0.251	0.236
N	200	200	118	200	187	133

Note: ***,**,* Significant at 1, 5 and 10% two tailed, respectively. The significance value *(p)* is reported in parenthesis below each odds ratio, except the AQ_i p-value is reported in parenthesis below the regression estimation

AQ_i is an ordinal audit quality from 1 to 6, where $AQ_i = 6$ represents the highest audit quality and $AQ_i = 1$ represents the lowest audit quality. Threshold $AQ = 1$ is 3.586 at (0.106), threshold $AQ = 2$ is 5.663 at (0.011), threshold $AQ = 3$ is 5.814 at (0.009), threshold $AQ = 4$ is 6.876 at (0.002), threshold $AQ = 5$ is 10.475 at (0.000)

AQa_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero otherwise

AQb_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero if audit pair has one Big N and one local auditor

AQc_i = one if audit pair has at least one Big N auditor, and zero if audit pair has no Big N auditor

AQd_i = one if audit pair includes EY and/or DT, and zero otherwise

AQe_i = one if audit pair has one Big N and one internationally affiliated auditor, and zero if audit pair has two internationally affiliated auditors or one internationally affiliated and one local auditor.

Table 1G-2 Ordinal and Logistic Regression of the Relationship between Audit Quality and All Families Control

Ordinal regression model:

$$AQ_i = \beta_0 + \beta_1 AllFamily\_cntrl_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

Logistic regression model:

$$AQa, b, c, d, e,_i = \beta_0 + \beta_1 AllFamily\_cntrl_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

	Column (1)	Column (2)	Column (3)	Column (4)	Column (5)	Column (6)
	AQ (Estimate)	*AQa (Odds ratio)*	*AQb (Odds ratio)*	*AQc (Odds ratio)*	*AQd (Odds ratio)*	*AQe (Odds ratio)*
Intercept		0.021	0.039	0.107	0.037	0.854
		(0.133)	(0.329)	(0.414)	(0.231)	(0.961)
AllFamily_cntrl	**-0.014*** **	**0.988** **	0.990	**0.987** **	**0.989***	0.988
	(0.007)	**(0.048)**	(0.259)	**(0.047)**	**(0.087)**	(0.117)
Size	**0.671** **	1.680	1.867	1.456	1.616	1.104
	(0.022)	(0.129)	(0.160)	(0.310)	(0.195)	(0.820)
AuditComm	**0.930***	**1.742***	0.623	**4.316*****	**4.272*****	**4.112*****
	(0.001)	**(0.090)**	(0.263)	**(0.000)**	**(0.000)**	**(0.001)**
Complex	-0.007	0.981	0.968	1.003	1.000	0.987
	(0.684)	(0.356)	(0.254)	(0.907)	(0.997)	(0.564)
ROA	0.147	1.415	1.396	1.194	1.191	1.202
	(0.540)	(0.508)	(0.519)	(0.781)	(0.765)	(0.759)
CEO_involve	0.028	1.215	1.463	0.956	1.090	1.058
	(0.916)	(0.544)	(0.347)	(0.893)	(0.798)	(0.891)
Leverage	-0.022	1.073	0.884	1.109	1.052	0.963
	(0.974)	(0.929)	(0.899)	(0.903)	(0.951	(0.968)
Financial	**0.997*****	**0.505***	**0.326** **	0.999	1.008	0.791
	(0.008)	**(0.090)**	**(0.029)**	(0.997)	(0.986)	(0.646)
Service	**1.384*****	**0.228*****	**0.312***	**0.258*****	**0.305*****	**0.184*****
	(0.000)	**(0.002)**	**(0.078)**	**(0.004)**	**(0.012)**	**(0.003)**
Industrial	0.176	**0.363** **	0.587	**0.305** **	**0.334** **	**0.267** **
	(0.675)	**(0.031)**	(0.410)	**(0.015)**	**(0.029)**	**(0.020)**
Pseudo- R^2	0.217	0.157	0.121	0.271	0.267	0.257
N	200	200	118	200	187	133

Note: ***,**,* Significant at 1, 5 and 10% two tailed, respectively. The significance value *(p)* is reported in parenthesis below each odds ratio, except the AQ_i p-value is reported in parenthesis below the regression estimation

AQ_i is an ordinal audit quality from 1 to 6, where $AQ_i = 6$ represents the highest audit quality and $AQ_i = 1$ represents the lowest audit quality. Threshold $AQ = 1$ is 3.302 at (0.138), threshold $AQ = 2$ is 5.409 at (0.016), threshold $AQ = 3$ is 5.163 at (0.013), threshold $AQ = 4$ is 6.648 at (0.003), threshold $AQ = 5$ is 10.299 at (0.000)

AQa_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero otherwise

AQb_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero if audit pair has one Big N and one local auditor

AQc_i = one if audit pair has at least one Big N auditor, and zero if audit pair has no Big N auditor

AQd_i = one if audit pair includes EY and/or DT, and zero otherwise

AQe_i = one if audit pair has one Big N and one internationally affiliated auditor, and zero if audit pair has two internationally affiliated auditors or one internationally affiliated and one local auditor.

APPENDIX H: SENSITIVITY ANALYSIS

Hypothesis 1: Alternative measures of ownership structure

This study uses alternate measures to ownership structure. Unlike the original measures, which used percentage of ownership of the four types of owners, the new measures consider whether an owner is a major owner. The following tables present the results of the major owners.

Table H-1 Relationship between Audit Quality and Institutional Ownership

Ordinal regression model:

$$AQ_i = \beta_0 + \beta_1 Instit\_maj_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

Logistic regression model:

$$AQa, b, c, d, e,_i = \beta_0 + \beta_1 Instit\_maj_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

	Column (1) *AQ (Estimate)*	Column (2) *AQa (Odds ratio)*	Column (3) *AQb (Odds ratio)*	Column (4) *AQc (Odds ratio)*	Column (5) *AQd (Odds ratio)*	Column (6) *AQe (Odds ratio)*
Intercept		0.010	0.014	0.059	0.021	0.958
		(0.077)	(0.193)	(0.308)	(0.170)	(0.990)
Instit_maj	**0.917****	**2.053***	1.090	**3.644*****	**3.323****	**3.456****
	(0.011)	**(0.074)**	(0.851)	**(0.009)**	**(0.017)**	**(0.033)**
Size	**0.674****	1.715	2.030	1.463	1.625	1.015
	(0.022)	(0.118)	(0.110)	(0.312)	(0.199)	(0.973)
AuditComm	**0.961*****	**1.850***	0.676	**4.444*****	**4.345*****	**4.328*****
	(0.001)	**(0.060)**	(0.351)	**(0.000)**	**(0.000)**	**(0.001)**
Complex	-0.012	0.977	0.961	0.999	0.997	0.987
	(0.477)	(0.272)	(0.149)	(0.972)	(0.887)	(0.589)
ROA	0.058	1.146	1.154	1.087	1.099	1.093
	(0.251)	(0.646)	(0.751)	(0.720)	(0.701)	(0.734)
CEO_involve	0.090	1.305	1.574	0.987	1.125	1.021
	(0.738)	(0.409)	(0.261)	(0.968)	(0.731)	(0.960)
Leverage	-0.037	1.079	1.024	1.094	1.072	1.028
	(0.956)	(0.925)	(0.981)	(0.918)	(0.937)	(0.977)
Financial	-0.445	0.468	0.349	0.854	0.879	0.698
	(0.209)	(0.062)	(0.035)	(0.725)	(0.779)	(0.487)
Service	**1.333*****	**0.225*****	**0.309***	**0.241*****	**0.285*****	**0.164*****
	(0.001)	**(0.002)**	**(0.075)**	**(0.003)**	**(0.009)**	**(0.003)**
Industrial	**0.941****	**0.426***	0.621	**0.356****	**0.379***	**0.309****
	(0.018)	**(0.067)**	(0.459)	**(0.032)**	**(0.051)**	**(0.037)**

Note: ***,**,* Significant at 1, 5 and 10% two tailed, respectively. The significance value (P) is reported in parenthesis below each odds ratio, except the AQ_i p-value is reported in parenthesis below the regression estimation. $Instit\_maj_i$ = 1 if institutions are the major investors, and 0 otherwise

AQ_i is an ordinal audit quality from 1 to 6, where AQ_i = 6 represents the highest audit quality and AQ_i = 1 represents the lowest audit quality. Threshold AQ = 1 is 2.602 at p-value (0.232), threshold *AQ* = 2 is 4.697 at (0.032), threshold *AQ* = 3 is 4.853 at (0.027), threshold *AQ* = 4 is 5.944 at (0.007), threshold *AQ* = 5 is 9.625 at (0.000)

AQa_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero otherwise

AQb_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero if audit pair has one Big N and one local auditor

AQc_i = one if audit pair has at least one Big N auditor, and zero if audit pair has no Big N auditor

AQd_i = one if audit pair includes EY and/or DT, and zero otherwise

AQe_i = one if audit pair has one Big N and one internationally affiliated auditor, and zero if audit pair has two internationally affiliated auditors or one internationally affiliated and one local auditor.

Table 1H-2 Ordinal and Logistic Regression of the Relationship between Audit Quality and Type of Institutional Investors' Ownership (Active v. Passive Institutional Investor)

Ordinal regression model:

$$AQ_i = \beta_0 + \beta_1\, Active\_maj_i + \beta_2\, Passive\_maj_i + \beta_3\, Size_i + \beta_4\, AuditComm_i + \beta_5\, Complex_i + \beta_6\, ROA_i + \beta_7\, CEO\_involve_i + \beta_8\, Leverage_i + \beta_9\, Industry_i + \varepsilon_i$$

Logistic regression model:

$$AQa, b, c, d, e,_i = \beta_0 + \beta_1\, Active\_maj_i + \beta_2\, Passive\_maj_i + \beta_3\, Size_i + \beta_4\, AuditComm_i + \beta_5\, Complex_i + \beta_6\, ROA_i + \beta_7\, CEO\_involve_i + \beta_8\, Leverage_i + \beta_9\, Industry_i + \varepsilon_i$$

	Column (1) *AQ (Estimate)*	Column (2) *AQa (Odds ratio)*	Column (3) *AQb (Odds ratio)*	Column (4) *AQc (Odds ratio)*	Column (5) *AQd (Odds ratio)*	Column (6) *AQe (Odds ratio)*
Intercept		0.008	0.011	0.054	0.019	0.749
		(0.064)	(0.169)	(0.297)	(0.165)	(0.931)
Active_maj	**1.260****	**3.762****	1.665	**13.352****	**12.869****	**14.187****
	(0.018)	**(0.027)**	(0.424)	**(0.019)**	**(0.022)**	**(0.025)**
Passive_maj	0.672	1.340	0.741	2.135	1.864	1.691
	(0.129)	(0.565)	(0.611)	(0.180)	(0.287)	(0.456)
Size	**0.689**	**1.781**	**2.105**	1.485	1.651	1.061
	(0.019)	**(0.097)**	**(0.094)**	(0.297)	(0.189)	(0.895)
AuditComm	**0.923*****	**1.725***	0.647	**4.303*****	**4.142*****	**3.819*****
	(0.001)	**(0.100)**	(0.305)	**(0.000)**	**(0.000)**	**(0.003)**
Complex	-0.012	0.976	0.960	0.998	0.995	0.984
	(0.470)	(0.250)	(0.136)	(0.924)	(0.832)	(0.480)
ROA	0.063	1.148	1.151	1.096	1.107	1.103
	(0.218)	(0.595)	(0.695)	(0.678)	(0.654)	(0.685)
CEO_involve	0.108	1.362	1.655	1.038	1.194	1.067
	(0.690)	(0.343)	(0.219)	(0.912)	(0.612)	(0.874)
Leverage	-0.161	0.879	0.873	0.932	0.849	0.761
	(0.814)	(0.875)	(0.890)	(0.938)	(0.857)	(0.787)
Financial	-0.419	**0.490**	**0.363**	0.891	0.930	0.768
	(0.238)	**(0.081)**	**(0.043)**	(0.797)	(0.876)	(0.610)
Service	**1.347*****	**0.216*****	0.284	**0.226*****	**0.268*****	**0.143*****
	(0.000)	**(0.002)**	(0.061)	**(0.002)**	**(0.007)**	**(0.002)**
Industrial	**0.942*****	**0.424****	0.617	**0.346****	**0.3668****	**0.301****
	(0.018)	**(0.066)**	(0.454)	**(0.029)**	**(0.045)**	**(0.034)**

Note: ***,**,* Significant at 1, 5 and 10% two tailed, respectively. The significance value *(p)* is reported in parenthesis below each odds ratio, except the AQ_i p-value is reported in parenthesis below the regression estimation. $Passive\_maj_i$ = one if banks and insurance companies are the major investors, and zero otherwise. $Active\_maj_i$ = one if foreign and mutual funds are the major investors, and zero otherwise

AQ_i is an ordinal audit quality from 1 to 6, where AQ_i = 6 represents the highest audit quality and AQ_i = 1 represents the lowest audit quality. Threshold *AQ* = 1 is 2.688 at p-value (0.218), threshold *AQ* = 2 is 4.784 at (0.029), threshold *AQ* = 3 is 4.941 at (0.024), threshold *AQ* = 4 is 6.038 at (0.006), threshold *AQ* = 5 is 9.738 at (0.000)

AQa_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero otherwise

AQb_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero if audit pair has one Big N and one local auditor

AQc_i = one if audit pair has at least one Big N auditor, and zero if audit pair has no Big N auditor

AQd_i = one if audit pair includes EY and/or DT, and zero otherwise

AQe_i = one if audit pair has one Big N and one internationally affiliated auditor, and zero if audit pair has two internationally affiliated auditors or one internationally affiliated and one local auditor.

Table 1H-3 Ordinal and Logistic Regression of the Relationship between Audit Quality and Government Ownership

Ordinal regression model:

$$AQ_i = \beta_0 + \beta_1 Govt\_maj_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 L_i + \beta_8 Industry_i + \varepsilon_i$$

Logistic regression model:

$$AQa, b, c, d, e, _i = \beta_0 + \beta_1 Govt\_maj_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

	Column (1) *AQ (Estimate)*	Column (2) *AQa (Odds ratio)*	Column (3) *AQb (Odds ratio)*	Column (4) *AQc (Odds ratio)*	Column (5) *AQd (Odds ratio)*	Column (6) *AQe (Odds ratio)*
Intercept		0.007	0.013	0.037	0.012	0.470
		(0.056)	(0.186)	(0.228)	(0.115)	(0.819)
Govt_maj	0.699	1.696	0.991	2.916	2.776	2.367
	(0.234)	(0.420)	(0.990)	(0.222)	(0.258)	(0.368)
Size	**0.740****	**1.816***	2.048	1.571	1.756	1.125
	(0.011)	**(0.083)**	(0.104)	(0.220)	(0.131)	(0.788)
AuditComm	**0.913*****	1.863	0.676	**4.236*****	**4.335*****	**4.241*****
	(0.001)	(0.057)	(0.354)	**(0.000)**	**(0.000)**	**(0.001)**
Complex	-0.014	0.976	0.961	0.997	0.995	0.985
	(0.401)	(0.234)	(0.144)	(0.897)	(0.815)	(0.523)
ROA	0.074	1.175	1.159	1.130	1.135	1.139
	(0.136)	(0.670)	(0.757)	(0.695)	(0.660)	(0.719)
CEO_involve	0.095	1.301	1.570	1.019	1.168	1.059
	(0.724)	(0.412)	(0.264)	(0.955)	(0.651)	(0.887)
Leverage	0.078	1.232	1.041	1.245	1.225	1.137
	(0.907)	(0.794)	(0.967)	(0.791)	(0.807)	(0.890)
Financial	-0.359	0.502	**0.351**	0.982	0.945	0.751
	(0.305)	(0.085)	**(0.037)**	(0.968)	(0.900)	(0.571)
Service	**-1.321*****	**0.235*****	**0.310***	**0.266*****	**0.306****	**0.188*****
	(0.001)	**(0.002)**	**(0.076)**	**(0.004)**	**(0.012)**	**(0.004)**
Industrial	**-1.092*****	**0.379****	0.615	**0.323****	**0.346****	**0.285****
	(0.006)	**(0.038)**	(0.454)	**(0.020)**	**(0.034)**	**(0.027)**

Note: ***,**,* Significant at 1, 5 and 10% two tailed, respectively. The significance value *(p)* is reported in parenthesis below each odds ratio, except the AQ_i p-value is reported in parenthesis below the regression estimation. $Govt\_maj_i$ = one if government agencies are the major investors, and zero otherwise

AQ_i is an ordinal audit quality from 1 to 6, where $AQ_i = 6$ represents the highest audit quality and $AQ_i = 1$ represents the lowest audit quality. Threshold $AQ = 1$ is 3.016 at p-value (0.164), threshold $AQ = 2$ is 5.094 at (0.019), threshold $AQ = 3$ is 5.247 at (0.016), threshold $AQ = 4$ is 6.315at (0.004), threshold $AQ = 5$ is 9.923 at (0.000)

AQa_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero otherwise

AQb_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero if audit pair has one Big N and one local auditor

AQc_i = one if audit pair has at least one Big N auditor, and zero if audit pair has no Big N auditor

AQd_i = one if audit pair includes EY and/or DT, and zero otherwise

AQe_i = one if audit pair has one Big N and one internationally affiliated auditor, and zero if audit pair has two internationally affiliated auditors or one internationally affiliated and one local auditor.

Table H-4 Ordinal and Logistic Regression of the Relationship between Audit Quality and Family Ownership

Ordinal regression model:

$$AQ_i = \beta_0 + \beta_1 Family_{maj_i} + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

Logistic regression model:

$$AQa, b, c, d, e,_i = \beta_0 + \beta_1 Family\_maj_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

	Column (1)	Column (2)	Column (3)	Column (4)	Column (5)	Column (6)
	AQ (Estimate)	*AQa (Odds ratio)*	*AQb (Odds ratio)*	*AQc (Odds ratio)*	*AQd (Odds ratio)*	*AQe (Odds ratio)*
Intercept		0.010	0.009	0.102	0.031	1.685
		(0.076)	(0.153)	(0.409)	(0.219)	(0.876)
Family_maj	-0.386	0.803	1.321	**0.502****	**0.550***	**0.487***
	(0.159)	(0.495)	(0.498)	**(0.042)**	**(0.085)**	**(0.083)**
Size	0.708	1.783	2.122	1.478	1.657	1.026
	(0.016)	(0.093)	(0.089)	(0.293)	(0.177)	(0.953)
AuditComm	**0.925*****	**1.883****	0.682	**4.204*****	**4.252*****	**4.222*****
	(0.001)	**(0.052)**	(0.363)	**(0.000)**	**(0.000)**	**(0.001)**
Complex	-0.014	0.976	0.960	0.998	0.995	0.985
	(0.413)	(0.237)	(0.142)	(0.922)	(0.827)	(0.503)
ROA	0.068	1.171	1.175	1.111	1.121	1.116
	(0.173)	(0.680)	(0.783)	(0.705)	(0.683)	(0.721)
CEO_involve	0.077	1.278	1.541	0.975	1.118	1.035
	(0.773)	(0.443)	(0.286)	(0.938)	(0.744)	(0.931)
Leverage	-0.007	1.160	1.115	1.093	1.072	1.007
	(0.991)	(0.851)	(0.911)	(0.917)	(0.934)	(0.994)
Financial	-0.385	**0.501***	0.363	0.916	0.912	0.705
	(0.273)	**(0.084)**	(0.043)	(0.842)	(0.839)	(0.493)
Service	**-1.294*****	**0.237*****	**0.312***	**0.266*****	**0.310****	**0.195*****
	(0.001)	**(0.003)**	**(0.077)**	**(0.005)**	**(0.014)**	**(0.005)**
Industrial	**-1.040*****	**0.388****	0.624	**0.324****	**0.351****	**0.286****
	(0.009)	**(0.042)**	(0.463)	**(0.021)**	**(0.037)**	**(0.028)**

Note: ***,**,* Significant at 1, 5 and 10% two tailed, respectively. The significance value *(p)* is reported in parenthesis below each odds ratio, except the AQ_i p-value is reported in parenthesis below the regression estimation. $Family\_maj_i$ = one if a family is the major investor, and zero otherwise.

AQ_i is an ordinal audit quality from 1 to 6, where AQ_i = 6 represents the highest audit quality and AQ_i = 1 represents the lowest audit quality. Threshold AQ = 1 is 2.478 at p-value (0.259), threshold AQ = 2 is 4.561 at (0.038), threshold AQ = 3 is 4.715 at (0.032), threshold AQ = 4 is 5.789 at (0.009), threshold AQ = 5 is 9.391 at (0.000).

AQa_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero otherwise

AQb_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero if audit pair has one Big N and one local auditor

AQc_i = one if audit pair has at least one Big N auditor, and zero if audit pair has no Big N auditor

AQd_i = one if audit pair includes EY and/or DT, and zero otherwise

AQe_i = one if audit pair has one Big N and one internationally affiliated auditor, and zero if audit pair has two internationally affiliated auditors or one internationally affiliated and one local auditor.

Table H-5 Ordinal and Logistic Regression of the Relationship between Audit Quality and Royal Family Ownership

Ordinal regression model:

$$AQ_i = \beta_0 + \beta_1 Royal\_maj_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

Logistic regression model:

$$AQa, b, c, d, e,_i = \beta_0 + \beta_1 Royal\_maj_i + \beta_2 Size_i + \beta_3 AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6 CEO\_involve_i + \beta_7 Leverage_i + \beta_8 Industry_i + \varepsilon_i$$

	Column (1)	Column (2)	Column (3)	Column (4)	Column (5)	Column (6)
	AQ (Estimate)	*AQa (Odds ratio)*	*AQb (Odds ratio)*	*AQc (Odds ratio)*	*AQd (Odds ratio)*	*AQe (Odds ratio)*
Intercept		0.007	0.013	0.056	0.017	0.977
		(0.056)	(0.186)	(0.286)	(0.140)	(0.994)
Royal_maj	-0.270	0.839	0.587	0.621	1.826	3.241
	(0.545)	(0.744)	(0.401)	(0.396)	(0.288)	(0.208)
Size	**0.739****	**1.816****	2.063	1.495	1.690	1.027
	(0.012)	**(0.081)**	(0.101)	(0.271)	(0.157)	(0.952)
AuditComm	**0.974*****	**1.938****	0.681	**4.523*****	**4.521*****	**4.681*****
	(0.001)	**(0.041)**	(0.362)	**(0.000)**	**(0.000)**	**(0.000)**
Complex	-0.014	0.976	0.963	0.996	0.993	0.981
	(0.408)	(0.235)	(0.189)	(0.847)	(0.747)	(0.388)
ROA	0.072	1.177	1.152	1.127	1.134	1.134
	(0.149)	(0.686)	(0.741)	(0.695)	(0.666)	(0.705)
CEO_involve	0.060	1.278	1.559	0.947	1.105	0.973
	(0.823)	(0.442)	(0.272)	(0.868)	(0.768)	(0.946)
Leverage	-0.012	1.163	0.964	1.242	1.235	1.208
	(0.986)	(0.849)	(0.970)	(0.794)	(0.801)	(0.840)
Financial	-0.313	0.520	**0.355**	0.998	0.955	0.702
	(0.371)	(0.100)	**(0.039)**	(0.996)	(0.919)	(0.486)
Service	**-1.283*****	**0.240*****	**0.328****	**0.269*****	**0.310****	**0.201*****
	(0.001)	**(0.003)**	**(0.093)**	**(0.004)**	**(0.013)**	**(0.005)**
Industrial	**-1.052*****	**0.396*****	**0.621**	**0.325****	**0.339****	**0.276****
	(0.008)	**(0.047)**	**(0.457)**	**(0.020)**	**(0.031)**	**(0.024)**

Note: ***,**,* Significant at 1, 5 and 10% two tailed, respectively. The significance value *(p)* is reported in parenthesis below each odds ratio, except the AQ_i p-value is reported in parenthesis below the regression estimation. $Royal\_maj_i$ = one if the royal family are the major investors, and zero otherwise

AQ_i is an ordinal audit quality from 1 to 6, where $AQ_i = 6$ represents the highest audit quality and $AQ_i = 1$ represents the lowest audit quality. Threshold $AQ = 1$ is 2.968 at p-value (0.171), threshold $AQ = 2$ is 5.033 at (0.021), threshold $AQ = 3$ is 5.184 at (0.017), threshold $AQ = 4$ is 6.246, at (0.004), threshold $AQ = 5$ is 9.837 at (0.000)

AQa_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero otherwise

AQb_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero if audit pair has one Big N and one local auditor

AQc_i = one if audit pair has at least one Big N auditor, and zero if audit pair has no Big N auditor

AQd_i = one if audit pair includes EY and/or DT, and zero otherwise

AQe_i = one if audit pair has one Big N and one internationally affiliated auditor, and zero if audit pair has two internationally affiliated auditors or one internationally affiliated and one local auditor.

Hypothesis 2: Alternative measure of FRQ

The study tests the robustness of the results by introducing an alternative measure of FRQ. The FRQ variable, *Accrul*, is split into innate and discretionary components. The following tables present the results of the innate and discretionary components of accruals quality.

Table H-6 Relationship between Accruals and the Five Innate Factors

$$AQual_j = \beta_0 + \beta_1 Size_j + \beta_2 \sigma(CFO)_j + \beta_3 \sigma(Sales)_j + \beta_4 OpCycle_j + \beta_5 NegEarn_j + \varepsilon_j$$

	Accrul
Intercept	0.55
	(0.94)
Size	0.062
	(0.493)
σ(CFO)	**2.528*** **
	(0.000)
σ(Sales)	0.204
	(0.561)* **
OpCycle	**0.0107**
	(0.978)
NegEarn	0.036
	(0.256)
Adjusted R2	0.143
N	117

Note: ***,**,* Significant at 1, 5 and 10% two tailed, respectively
The significance value *(p)* is reported in parenthesis below each estimate
This table presents the regression results for the relationship between *Accrul* and the five innate factors Where Size = log of total assets, *σ(CFO)* = the standard deviation of cash flow from operations, *σ(Sales)* = the standard deviation of sales revenue. OpCycle = log of the sum of days accounts receivable and days inventory. NegEarn = one if the earnings after tax are negative, and zero otherwise.

Table H-7 Summary Statistics for the Innate and Discretionary Components of Accruals

Panel A: Descriptive statistics of innate and discretionary components of accruals							
	Variable	**N**	**Min**	**Median**	**Max**	**Mean**	**Stdev.**
All companies	*innate*	117	0.527	0.762	2.637	0.814	0.243
	Disc	117	-1.309	-0.27	3.473	0.0000003	0.983
Panel B: Descriptive statistics of innate and discretionary components of accruals in KSE sectors							
Market sector	**Variable**	**N**	**Min**	**Median**	**Max**	**Mean**	**Stdev.**
Real estate	*innate*	34	0.564	0.759	1.293	0.803	0.162
	Disc	34	-1.302	-0.486	2.927	-0.203	0.928
Industrial	*innate*	33	0.527	0.759	1.687	0.801	0.223
	Disc	33	-1.309	-0.383	3.473	-0.105	0.88
Service	*innate*	50	0.599	0.773	2.637	0.829	0.298
	Disc	50	-1.229	-0.074	3.244	0.207	1.058

Table H-8 ANOVA Results for the Discretionary and Innate Components of Accruals

	Mean				
Variable	Real estate	Industrial	Service	F-Stat	P-value
Disc	-0.203	-0.105	0.207	2.067	0.131
Innate	0.803	0.801	0.829	0.18	0.836

Table H-9 Relationship between Discretionary and Innate Components of Accruals and Different Audit Partitions

$$DiscAcc_i = \beta_0 + \beta_1 \widehat{AQ}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

$$Innate_i = \beta_0 + \beta_1 \widehat{AQ}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

Panel A	Discretionary accruals		Innate accruals	
Variables	Coeff.	p-value	Coeff.	p-value
AQ^	-0.146	0.699	-0.018	0.833
Size	-0.124	0.853	-0.102	0.508
AuditComm	1.970	0.209	0.184	0.608
Complex	-0.039	0.670	-0.004	0.848
ROA	1.339	0.510	-1.339	0.005
CEO_involve	0.032	0.984	-0.376	0.317
Leverage	-0.349	0.649	0.043	0.804
Real Estate	0.748	0.864	1.841	0.071
Industrial	0.442	0.918	1.833	0.068
Service	1.140	0.783	1.923	0.046
Adjusted R^2	0.043		0.871	
N	117		117	

Panel B

$$DiscAcc_i = \beta_0 + \beta_1 \widehat{AQa}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

$$Innate_i = \beta_0 + \beta_1 \widehat{AQa}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

Variables	Coeff.	p-value	Coeff.	p-value
AQa^	-0.489	0.648	-0.058	0.799

Size	-0.172	0.789	-0.061	0.643
AuditComm	2.095	0.217	0.160	0.673
Complex	-0.037	0.671	-0.005	0.739
ROA	1.632	0.473	**-1.381*** **	**0.005**
CEO_involve	0.223	0.887	-0.350	0.308
Leverage	-0.270	0.748	-0.057	0.770
Real Estate	0.603	0.896	1.018	8.154
Industrial	0.301	0.947	1.020	1.988
Service	0.974	0.823	1.111	2.088
Adjusted R^2	0.040		0.876	
N	117		117	

Panel C

$$DiscAcc_i = \beta_0 + \beta_1 \widehat{AQb}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

$$Innate_i = \beta_0 + \beta_1 \widehat{AQb}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

Variables	Coeff.	p-value	Coeff.	p-value
AQb^	0.912	0.595	-0.186	0.618
Size	0.77	0.380	-0.099	0.604
AuditComm	-1.703	0.366	0.390	0.341
Complex	-0.032	0.788	-0.017	0.506
ROA	-6.046	0.274	-1.386	0.249
CEO_involve	-2.368	0.213	0.028	0.944
Leverage	-1.456	0.300	-0.017	0.953
Real Estate	-3.091	0.634	1.651	0.244
Industrial	-3.834	0.534	1.562	0.246
Service	-3.288	0.582	1.731	0.185
Adjusted R^2	0.057		0.851	
N	64		64	

Panel D

$$DiscAcc_i = \beta_0 + \beta_1 \widehat{AQc}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

$$Innate_i = \beta_0 + \beta_1 \widehat{AQc}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

Variables	Coeff.	p-value	Coeff.	p-value
AQc^	-0.230	0.847	-0.095	0.752
Size	-0.194	0.752	-0.099	0.526
AuditComm	1.811	0.249	0.218	0.581
Complex	-0.028	0.751	-0.005	0.798
ROA	1.259	0.518	**-1.347*** **	**0.007**
CEO_involve	0.146	0.926	-0.397	0.322
Leverage	-0.372	0.618	0.051	0.784
Real Estate	0.920	0.828	**1.809***	**0.093**
Industrial	0.623	0.881	**1.797***	**0.091**
Service	1.228	0.758	**1.904***	**0.061**
Adjusted R^2	0.045		0.859	
N	117		117	

Panel E

$$DiscAcc_i = \beta_0 + \beta_1 \widehat{AQd}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

$$Innate_i = \beta_0 + \beta_1 \widehat{AQd}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

Variables	Coeff.	p-value	Coeff.	p-value
AQd^	-0.285	0.776	-0.143	0.669
AuditComm	-0.289	0.605	-0.090	0.626
Complex	1.942	0.189	0.348	0.479

ROA	-0.037	0.638	-0.013	0.613
CEO_involve	1.619	0.410	**-1.47****	**0.026**
Leverage	-0.025	0.986	-0.494	0.331
Real Estate	-0.30	0.675	0.051	0.834
Industrial	1.761	0.653	1.814	0.168
Service	1.380	0.722	1.810	0.165
Adjusted R^2	0.066		0.795	
N	109		109	

Panel F

$$DiscAcc_i = \beta_0 + \beta_1 \widehat{AQe}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

$$Innate_i = \beta_0 + \beta_1 \widehat{AQe}_i + \beta_2\, Size_i + \beta_3\, AuditComm_i + \beta_4 Complex_i + \beta_5 ROA_i + \beta_6\, CEO\_involve_i + \beta_7\, Leverage_i + \beta_8\, Industry_i + \varepsilon_i$$

Variables	Coeff.	p-value	Coeff.	p-value
AQe^	0.470	0.648	0.171	0.593
AuditComm	-0.164	0.859	-0.375	0.198
Complex	2.006	0.246	-0.171	0.749
ROA	-0.077	0.611	0.048	0.314
CEO_involve	1.881	0.461	-1.250	0.119
Leverage	1.208	0.477	-0.391	0.460
Real Estate	-0.088	0.941	-0.088	0.813
Industrial	0.111	0.987	**3.745***	**0.091**
Service	-0.539	0.940	**3.879***	**0.090**
Adjusted R^2	0.059		0.730	
N	78		78	

Note: ***, **, *, Significant at 1, 5 and 10% significance level, respectively

Sargent test results indicate the validity of instruments variables used in the second stage of regression analysis ($10 < p < 6$)

This table presents the regression results for the relationship between estimated audit quality and FRQ proxies: discretionary and innate components of accruals

AQ_i is an ordinal audit quality from 1 to 6, where $AQ_i = 6$ represents the highest audit quality and $AQ_i = 1$ represents the lowest audit quality

AQa_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero otherwise

AQb_i = one if audit pair has two Big N auditors or one Big N and one internationally affiliated auditor, and zero if audit pair has one Big N and one local auditor

AQc_i = one if audit pair has at least one Big N auditor, and zero if audit pair has no Big N auditor

AQd_i = one if audit pair includes EY and/or DT, and zero otherwise

AQe_i = one if audit pair has one Big N and one internationally affiliated auditor, and zero if audit pair has two internationally affiliated auditors or one internationally affiliated and one local auditor.